

VII. RURAL, INSULAR, AND HIGH COST

A. Overview

199. Informed by the further recommendations of the state members of the Joint Board, we implement the Joint Board's recommendations, including a specific timetable for implementation of federal universal service support to rural, insular and high cost areas. As the Joint Board recommended, we today establish that the level of support for service to a particular customer will ultimately be determined based upon the forward-looking economic cost of constructing and operating the network facilities and functions used to provide that service. As the Joint Board stated, forward-looking economic cost best approximates the costs that would be incurred by an efficient carrier in the market. Thus, as the Joint Board found, the use of forward-looking economic cost as the basis for determining support will encourage and permit economically correct levels of entry, investment, and innovation. Use of forward-looking economic cost helps us to ensure that we are providing the minimum support necessary for efficient provision of the supported services.

200. We further adopt the recommendation of the Joint Board that, in determining the amount of federal support, we should subtract a revenue benchmark from the forward-looking economic cost of providing the supported services, and that the federal universal service mechanisms for rural, insular, and high cost areas should provide support for a portion of the difference between the forward-looking economic cost and the revenue benchmark. As the Joint Board recommended, the revenue benchmark should take account not only of the retail price currently charged for local service, but also of other revenues the carrier receives as a result of providing service, including vertical service revenue and interstate and intrastate access revenues. Failure to include all revenues received by the carrier could result in substantial overpayment to the carrier. We also conclude that, because residential customers and single-line business customers pay different rates for service, the revenue benchmarks for these groups of subscribers should differ.

201. We also conclude that the federal universal service mechanisms for rural, insular, and high cost areas will support 25 percent of the difference between the forward-looking economic cost of providing the supported service and the appropriate revenue benchmark. Twenty-five percent approximates the cost of providing the supported network facilities that have historically been assigned to the interstate jurisdiction, and by funding the interstate costs, we will ensure that federal implicit universal service support is made explicit, consistent with section 254(e).

202. We do not, by this Order, attempt to identify existing state-determined intrastate implicit universal service support presently effectuated through intrastate rates or other state decisions, nor do we attempt to convert such implicit intrastate support into explicit federal universal service support. We believe that existing levels of implicit intrastate universal service

support are substantial. We find, however, that the states, acting pursuant to sections 254(f) and 253 of the Communications Act, must in the first instance be responsible for identifying implicit intrastate universal service support. We believe that, as competition develops, states may be compelled by marketplace forces to convert implicit support to explicit, sustainable mechanisms consistent with section 254(f). As states do so, we will be able to assess whether additional federal universal service support is necessary to ensure that quality services remain available at just, reasonable, and affordable rates. We recognize, however, that we will need to continue to consult with the states as they undertake this process. We will reconvene the Joint Board later this year to provide a working forum for such consultations.

203. Like the Joint Board, we do not anticipate that all carriers will begin to receive universal service support in rural, insular, and high cost areas based on forward-looking economic cost at the same time or even in an identical manner. The state Joint Board members favor having a period prior to the activation of a forward-looking mechanism in which carriers will receive support based on embedded costs. We agree with the state members and therefore adopt such plans for both rural and non-rural carriers. Non-rural carriers will begin to receive support based on forward-looking economic cost on January 1, 1999. Rural carriers' support will not begin to be based on forward-looking economic cost until further review. We anticipate that, at the time of such further review, we will set a date when rural carriers will begin to receive support based on forward-looking economic cost.

204. Consistent with the Joint Board's recommendations, until a carrier begins to receive support based upon forward-looking economic cost, the carrier will continue to receive support based upon the existing high cost fund, DEM weighting, and LTS programs. As further recommended by the Joint Board, rural carriers would not, on January 1, 2001, shift immediately from support based upon the existing high cost fund, DEM weighting, and LTS programs to support calculated based on forward-looking economic costs. Rather, consistent with the Joint Board's recommendation, rural carriers would gradually shift to a support system based on forward-looking economic cost at a date the Commission will set after further review, but in no event starting sooner than January 1, 2001.

205. We recognize that federal determinations of forward-looking economic cost must acknowledge state actions taken to meet state obligations imposed by the 1996 Act. Indeed, most states currently are conducting their own proceedings to determine the forward-looking economic cost of providing interconnection and access to unbundled network elements. States such as California and Pennsylvania that have already concluded universal service proceedings use cost studies to calculate the forward-looking economic cost of providing universal service. Our determinations of forward-looking economic cost for the purpose of determining federal universal service support for rural, insular, and high cost areas must be coordinated with these ongoing state proceedings. Failure to do so would risk underfunding universal service or overcompensating carriers in some areas. We also recognize, however, that some states may lack the resources to conduct an examination of forward-looking economic costs for universal

service purposes.

206. Accordingly, to determine the appropriate level of federal support for service to rural, insular, and high cost areas, we invite states to submit cost studies consistent with the criteria that we prescribe herein and subject to Commission review and approval. State studies must be based on forward-looking economic cost, be consistent with the study used for the state universal service program, and not impede the provision of advanced services. We encourage a state to use the same cost methodology to the extent possible for both its universal service program and its pricing of unbundled network elements. To assist the states, we enumerate below criteria for their cost studies. For states that do not elect to conduct their own cost studies, or for states that submit cost studies that do not meet the criteria that we prescribe, we will determine forward-looking economic cost according to the methodology that we will develop. By the end of June 1997, we will issue a Further Notice of Proposed Rule Making (FNPRM) seeking information to permit us to make our own estimates of forward-looking economic cost more reliable. The FNPRM will seek comment on a range of issues, and will explore options for a forward-looking economic cost methodology for calculating high cost support for non-rural carriers, including forward-looking cost studies and competitive bidding.

207. We agree with the Joint Board and commenters that there are many potential advantages to defining universal service support levels for rural, insular, and high cost areas through the use of a competitive bidding mechanism. We recognize, as did the Joint Board, that competitive bidding could supplement another forward-looking economic cost methodology in determining the universal service support levels because a properly structured bidding system requires competitors to reveal expected revenue opportunities. Accordingly, we will continue to review competitive bidding systems to determine whether competitive bidding could be used to determine universal service support through market-based mechanisms.

B. Background

208. Currently there are three mechanisms designed expressly to provide support for high cost and small telephone companies:⁵¹⁹ the Universal Service Fund (high cost assistance fund),⁵²⁰ the DEM weighting program,⁵²¹ and LTS.⁵²²

⁵¹⁹ For a more complete description of the existing universal service support mechanisms, see Common Carrier Bureau, *Preparation for Addressing Universal Service Issues: A Review of Current Interstate Support Mechanisms* (Feb. 23, 1996).

⁵²⁰ 47 C.F.R. § 36.601 *et. seq.*

⁵²¹ 47 C.F.R. § 36.125(b).

⁵²² 47 C.F.R. §§ 69.105, 69.502, 69.603(e), 69.612.

209. For high cost loops,⁵²³ the jurisdictional separations rules⁵²⁴ currently assign 25 percent of each ILEC's loop costs⁵²⁵ to the interstate jurisdiction.⁵²⁶ As a result, a portion of each ILEC's local loop costs is recovered through rates charged to its customers for interstate services.⁵²⁷ For ILECs with above-average loop costs, the existing high cost assistance fund mechanism shifts an additional percentage of the loop costs to the interstate jurisdiction and permits those ILECs to recover this incremental allocation from the high cost assistance fund.⁵²⁸ Each ILEC's embedded loop costs determine the support payments the ILEC will receive.

210. Currently, an ILEC is eligible for support if its embedded loop costs for a given study area exceed 115 percent of the national average loop cost.⁵²⁹ ILECs with study areas⁵³⁰ of 200,000 or fewer loops receive a greater percentage of their above-average loop costs than those with study areas with more than 200,000 loops.⁵³¹ ILECs with study areas of 200,000 or fewer working loops recover from the fund an additional 65 percent of the unseparated cost per loop between 115 percent and 150 percent of the national average cost per loop, multiplied by the number of their working loops. This additional allocation of 65 percent coupled with the 25 percent allocation to the interstate for all carriers means that these companies allocate 90 percent

⁵²³ "Subscriber loops" or "loops" are the connection between the telephone company's central office and the customer's premises. In the *Local Competition Order*, the Commission defined the loop, for unbundling purposes, as "a transmission facility between a distribution frame, or its equivalent, in an ILEC central office, and the network interface device at the customer premises." *Local Competition Order*, 11 FCC Rcd at 15,691.

⁵²⁴ The Commission's jurisdictional separations rules are contained in Part 36 of the Commission's rules. 47 C.F.R. Part 36. The rules are designed to allocate property costs, revenues, expenses, taxes and reserves between the interstate and intrastate jurisdictions. See 47 C.F.R. § 36.1.

⁵²⁵ Loop cost is the fixed cost of connecting customers to the ILEC central office. ILECs' local loop costs vary widely due to many factors, including subscriber density, terrain, local exchange size, and labor costs.

⁵²⁶ 47 C.F.R. Part 36.

⁵²⁷ The access charge rules currently require that these costs be recovered through SLCs and CCL charges. We are, however, revising the access charge structure for ILECs under price cap regulation in a separate proceeding. See *Access Charge Reform Order*.

⁵²⁸ The high cost assistance fund is currently administered by NECA.

⁵²⁹ The national average cost per loop based on year-end data for 1995 was \$248.43. Universal Service Fund 1996 Submission of 1995 Study Results by the National Exchange Carrier Association (filed Oct. 1, 1996). Therefore, under the existing rules a carrier would have to have loop costs exceeding \$285.69 per year (\$23.81 per month) before it would be eligible to receive high cost support funding.

⁵³⁰ Carriers perform jurisdictional separations at the study area level. A "study area" is usually an ILEC's existing service area in a given state. The term "study area" is defined *supra* in section VI.B.2.b.

⁵³¹ 47 C.F.R. § 36.631(c), (d).

of the loop costs between 115 percent and 150 percent of the national average to the interstate jurisdiction. These carriers receive an additional interstate allocation of 75 percent of the cost per loop that exceeds 150 percent of the national average cost per loop. That additional allocation, coupled with the base 25 percent allocation applicable to all carriers with 200,000 or fewer loops in their study area, means that carriers with loop costs greater than 150 percent of the national average recover 100 percent of their loop costs above 150 percent of the national average from the interstate jurisdiction. In other words, they receive a dollar from the interstate jurisdiction for each dollar of loop costs above 150 percent of the national average loop cost.

211. For ILECs with study areas of more than 200,000 working loops, the additional interstate allocation of unseparated loop costs recovered from the federal high cost fund is as follows: 10 percent of such costs between 115 percent and 160 percent of the national average, 30 percent of such costs between 160 percent and 200 percent of the national average, 60 percent of such costs between 200 percent and 250 percent of the national average, and 75 percent of such costs in excess of 250 percent of the national average. Today this program is funded entirely by interexchange carriers (IXCs).⁵³²

212. Our jurisdictional separations rules also include a second universal service support mechanism known as DEM weighting, which was designed to support switching costs for small telephone companies. When the DEM weighting mechanism was created, it was assumed that smaller telephone companies have higher local switching costs than larger ILECs because the smaller companies cannot take advantage of certain economies of scale. For ILECs with fewer than 50,000 access lines, the interstate DEM factor is weighted (multiplied by a factor of up to three, depending on the number of lines served by the carrier) to shift what would otherwise be intrastate costs to the interstate jurisdiction. Thus small ILECs assign a greater proportion of these local switching costs to the interstate jurisdiction than larger ILECs may allocate.⁵³³ Currently, DEM weighting assistance is an implicit support mechanism recovered through switched access rates charged to interexchange carriers by those ILECs serving fewer than 50,000 lines. DEM weighting applies independent of, and unrelated to, the high cost assistance fund.

213. The third support mechanism currently in place is LTS. The LTS program supports carriers with higher-than-average loop costs by providing carriers that are members of the NECA pool with enough support to enable them to charge a nationwide average CCL interstate access rate.⁵³⁴ Under the current LTS support system, NECA annually projects the

⁵³² Each IXC with at least .05 percent of presubscribed lines nationwide contributes to the fund an amount based on the number of its presubscribed lines. 47 C.F.R. § 69.116.

⁵³³ 47 C.F.R. § 36.125(b).

⁵³⁴ Prior to 1989, all ILECs were required to pool their carrier common line costs and revenues. Beginning in April 1989, ILECs were permitted to withdraw from the pool, but ILECs that choose to exit the pool must

common line revenue requirement (which includes an 11.25 percent return on investment) for ILECs that participate in the common line pool. NECA then calculates the average per-minute CCL charge that is charged by price cap ILECs,⁵³⁵ and projects the revenues that ILECs participating in the NECA pool would expect to collect by charging that average CCL rate.⁵³⁶ NECA then computes the total amount of LTS needed by subtracting the amount pooling carriers will receive in SLCs and CCL charges from the pool's projected revenue requirement. LTS is funded by ILECs that do not participate in the common line pool. Non-pooling ILECs' LTS contributions to the pool are set annually based on the total projected amount of LTS, converted to a monthly payment amount. The monthly payments received by the ILEC common line pool members are computed based on the pooling carriers' submissions to NECA of reported cost data (except for average schedule companies, whose monthly payments are based on average schedule data). As a result, each participating pool member does not receive an "LTS payment," but instead receives a payment from the "pooled" common line revenues. Non-pooling ILECs recover the LTS payments they make through their CCL charge to IXCs.

214. The Joint Board recommended that the amount of support a carrier receives for providing service in rural, insular, and high cost areas be calculated by subtracting a benchmark amount from the cost of service for a particular geographic area. The Joint Board recommended that the cost of service be determined by a forward-looking economic cost model.⁵³⁷ The Joint Board found that, in order to ensure that universal service support mechanisms send the correct signals for entry, investment, and innovation in the long run, the Commission should use forward-looking economic cost as the basis for determining support levels.⁵³⁸ Consequently, the Joint Board recommended basing universal service support for eligible carriers on the forward-looking economic cost of building and operating the network needed to provide the services included in the list of services recommended for universal service support pursuant to section 254(c)(1).

contribute enough so that ILECs remaining in the pool would be able to charge the same industry average CCL rates they would have charged if the pool were still mandatory for all ILECs. *See* MTS and WATS Market Structure; Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board, *Report and Order*, 2 FCC Rcd 2953 (1987). *See infra* section XII.B.1.

⁵³⁵ 47 C.F.R. § 69.105(b)(2), (3).

⁵³⁶ *See* MTS and WATS Market Structure: Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board, *Recommended Decision and Order*, 2 FCC Rcd 2324; MTS and WATS Market Structure: Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board, *Report and Order*, 2 FCC Rcd 2953 (1987).

⁵³⁷ *Recommended Decision*, 12 FCC Rcd at 185.

⁵³⁸ *Recommended Decision*, 12 FCC Rcd at 231-32.

215. The Joint Board stated that, in principle, using cost estimates generated by a model is a reasonable technique for determining forward-looking costs.⁵³⁹ The Joint Board discussed the three cost models that had been presented during the proceeding but did not endorse a specific model.⁵⁴⁰ The Joint Board concluded that, before a specific model could be selected, several issues would need to be resolved, including how the various assumptions regarding basic input levels among the models were determined, which input levels were reasonable, what the relationships were among the inputs, why certain functionalities included in one model were not present in the other models, and which of the unique set of engineering design principles for each model were most reasonable.⁵⁴¹

216. Although it recommended using forward-looking economic costs calculated by using a cost model to determine high cost support for all eligible telecommunications carriers, the Joint Board found that the models as proposed could not precisely calculate small, rural carriers' costs.⁵⁴² The Joint Board therefore recommended that rural carriers not use a cost model immediately to calculate their support for serving rural high cost areas, but rather shift to a model over six years.⁵⁴³ The Joint Board recommended that, for three years, starting on January 1, 1998, high cost assistance, DEM weighting, and LTS benefits for rural carriers be fixed based on historical per-line amounts. Rural carriers would then shift over a three-year period beginning January 1, 2001 to a mechanism for calculating support based on a cost model.⁵⁴⁴ The Joint Board recommended that, prior to the transition, the Commission work with the state commissions to review the model to ensure that the Commission considers the unique situations

⁵³⁹ Recommended Decision, 12 FCC Rcd at 231-32.

⁵⁴⁰ Recommended Decision, 12 FCC Rcd at 229, 234. The BCM, BCM2, CPM, and Hatfield Version 2.2, Release 2, models were submitted to the Joint Board for its consideration. *Id.* at 233-34. For a discussion of the BCM, BCM2, CPM, and Hatfield 2.2.2 models, *see id.* at 217-29. Appendix F of the Recommended Decision contained a review of the models. *See* Recommended Decision, 12 FCC Rcd at 529, App. F.

⁵⁴¹ Recommended Decision, 12 FCC Rcd at 234.

⁵⁴² Recommended Decision, 12 FCC Rcd at 234-35.

⁵⁴³ The Joint Board recommended that the Commission define "rural" as those carriers that meet the statutory definition of a "rural telephone company." 47 U.S.C. § 153(47).

⁵⁴⁴ The Joint Board recommended that, beginning in the year 2001, and through the year 2003, that calculation of support be gradually shifted to a forward-looking economic cost methodology. In the year 2001, support would be based on 75 percent fixed levels and 25 percent cost model; in 2002, support would be based on 50 percent fixed levels and 50 percent cost model; in 2003, support would be based on 25 percent fixed levels and 75 percent cost model. Beginning in 2004, support would be calculated solely on a forward-looking economic cost methodology. Recommended Decision, 12 FCC Rcd at 236-237.

of rural carriers.⁵⁴⁵ The Joint Board also concluded that, due to the unique nature of providing service in Alaska and insular areas, rural carriers serving those areas should not be shifted to a forward-looking cost methodology pending further review.

217. The Joint Board recommended that the benchmark used to calculate the support eligible telecommunications carriers would receive for serving rural, insular, and high cost areas be based on nationwide average revenue per line.⁵⁴⁶ In addition, because it recommended that only primary residential and single-line business connections be supported, with single-line businesses receiving less support, the Joint Board recommended defining two benchmarks, one for residential service and a second for single-line business service.⁵⁴⁷ According to the Joint Board, revenues per line are the sum of the revenue generated by local, discretionary,⁵⁴⁸ access services and "others as found appropriate," divided by the number of loops served.⁵⁴⁹ The Joint Board found that including revenues from those services would be consistent with the cost estimation process used in the models submitted to determine the cost of service in high cost support areas.⁵⁵⁰

218. On January 9, 1997, the Common Carrier Bureau released a staff analysis on the use of models for estimating forward-looking economic cost and sought comment on the issues raised in the paper.⁵⁵¹ The staff presented a detailed analysis of the structure and input requirements of the cost models that had been submitted to the Commission and Joint Board for consideration.⁵⁵² The staff also raised several questions about the potential uses of models in several proceedings pending before the Commission, including this proceeding on universal

⁵⁴⁵ Recommended Decision, 12 FCC Rcd at 235.

⁵⁴⁶ Recommended Decision, 12 FCC Rcd at 246.

⁵⁴⁷ Recommended Decision, 12 FCC Rcd at 247.

⁵⁴⁸ Discretionary services include services that may be added, at the user's option, to basic local service, such as call waiting, call forwarding, and caller ID.

⁵⁴⁹ Recommended Decision, 12 FCC Rcd at 246.

⁵⁵⁰ Recommended Decision, 12 FCC Rcd at 246 (*citing* letter from Glenn Brown, U S West, to William F. Caton, FCC, dated Sep. 4, 1996, and letter from Richard N. Clarke, AT&T, to William F. Caton, FCC, dated Sep. 10, 1996.)

⁵⁵¹ See Public Notice, Commission Staff Releases Analysis of Forward-looking Economic Cost Proxy Models, DA 97-56 (rel. Jan. 9, 1997).

⁵⁵² The Use of Computer Models for Estimating Forward-looking Economic Costs: A Staff Analysis (Jan. 9, 1997) at 4-7.

service. The staff noted that the Joint Board had already recommended that the submitted models undergo refinement before they were used to set universal service support levels.⁵⁵³ The Bureau sought comment on the different design assumptions that can or should be used in models when used for different purposes.⁵⁵⁴

219. Pursuant to the Joint Board's recommendation that we work with the state commissions to develop an adequate cost model to calculate forward-looking economic cost, on January 14 and 15, 1997, the federal staff of the Joint Board conducted workshops on the cost models on record in this proceeding. In a Public Notice issued on December 12, 1996, the staff announced the workshop and invited parties to submit cost models for discussion.⁵⁵⁵ In response to the Public Notice, parties submitted three cost models: (1) the Benchmark Cost Proxy Model (BCPM) was submitted by U S West, Sprint, and Pacific Bell; (2) the Hatfield Model, Version 2.2, Release 2, developed by Hatfield Associates, was submitted by AT&T and MCI; and (3) the Telecom Economic Cost Model (TECM), developed by Ben Johnson Associates, Inc., was submitted by the New Jersey Ratepayer Advocate.⁵⁵⁶ The workshops consisted of four round table discussions by representatives of the industry and the public on issues relating to the selection of a cost model for determining the cost of providing the services supported by the universal service support mechanism.⁵⁵⁷

220. On March 26, 1997, the state members of the Joint Board filed a report with the Commission discussing their recommendations on a number of issues related to the use of a model to calculate the cost of providing the supported services.⁵⁵⁸ Although acknowledging remaining problems with the models, the state members recommend that the Commission select one model as the one to determine universal service support in this Order in order to focus the

⁵⁵³ The Use of Computer Models for Estimating Forward-Looking Economic Costs: A Staff Analysis (Jan. 9, 1997) at 5-6.

⁵⁵⁴ See Public Notice, Commission Staff Releases Analysis of Forward-looking Economic Cost Proxy Models, DA 97-56 (rel. Jan. 9, 1997).

⁵⁵⁵ See Public Notice, Federal-State Joint Board on Universal Service: Staff to Hold Workshops on Proxy Cost Models on January 14-15, 1997, CC Docket 96-45, DA 96-2091 (rel. Dec. 12, 1996).

⁵⁵⁶ See Public Notice, Federal-State Joint Board on Universal Service: Agenda and Panelists Announced for Staff Workshops on Proxy Cost Models on January 14-15, 1997, CC Docket 96-45, DA 97-60 (rel. Jan. 9, 1997) ("January 9 Public Notice").

⁵⁵⁷ The list of participants on each panel was set forth in the January 9 Public Notice. A transcript of the workshop was prepared by USTA and placed into the record of this proceeding. See Letter from Porter E. Childers, USTA, to William F. Caton, FCC, dated Jan. 29, 1997, attachment ("Workshop Transcript").

⁵⁵⁸ See Letter from Kenneth McClure, Chair, State Members of the Federal-State Joint Board on Universal Service, to Reed E. Hundt, FCC (dated Mar. 26, 1997).

efforts of industry participants and regulators.⁵⁵⁹ The state members recommend that the Commission adopt a three-year phase-in for the use of a model by non-rural carriers to allow evaluation of the model's accuracy.⁵⁶⁰ The state members also recommend that the Commission and Joint Board members and staff work with the administrator to monitor the use of the model.⁵⁶¹

221. The state members recommend that, rather than the recommendation of the Joint Board, the Commission adopt an industry proposal regarding the determination of support for rural carriers before those carriers move to support based on a forward-looking economic cost methodology.⁵⁶² The state members further recommend that, during the period before rural carriers begin to draw support based solely on a model, each carrier continue to receive support based on all of the carrier's working lines, and not just its primary residential and single-line business lines.⁵⁶³ The state members also depart from the Joint Board recommendation in recommending that rural carriers not be allowed to elect to draw support solely based on forward-looking economic cost until January 1, 2001, when all rural carriers would begin using a forward-looking economic cost methodology for calculating their high cost support.⁵⁶⁴

222. On April 21, 1997, a majority of the state members of the Joint Board filed a second report with the Commission regarding the selection of a cost model and a benchmark to be used with the model.⁵⁶⁵ In this report, three of the five state members of the Joint Board recommend that the Commission narrow its focus to the BCPM as the best platform at this time from which to make revisions.⁵⁶⁶ The majority state members assert, however, that the recommendation to select the BCPM is not a wholesale endorsement of all aspects of the

⁵⁵⁹ State Members' Report on the Use of Cost Proxy Models, dated Mar. 26, 1997 ("State High Cost Report") at 1.

⁵⁶⁰ State High Cost Report at 4.

⁵⁶¹ State High Cost Report at 5.

⁵⁶² See Letter from Porter Childers, USTA, to William F. Caton, FCC, dated Feb. 14, 1997 (ILEC Associations' February 14 *ex parte*); Letter from Porter Childers, USTA, to William F. Caton, FCC, dated Mar. 13, 1997 (ILEC Associations' March 13 *ex parte*).

⁵⁶³ State High Cost Report at 3.

⁵⁶⁴ State High Cost Report at 4.

⁵⁶⁵ Majority State Members' Second Report on the Use of Cost Proxy Models, dated Apr. 21, 1997 ("Majority State Members' Second High Cost Report").

⁵⁶⁶ Majority State Members' Second High Cost Report at 7.

model,⁵⁶⁷ and discuss several aspects of the model, including the line counts used and the dispersion of loops within a CBG,⁵⁶⁸ that they state will need to be refined before it is used.⁵⁶⁹ Two state members of the Joint Board, however, dissent from the report's recommendation of the BCPM, and assert that convincing evidence is lacking for the selection of either BCPM or the Hatfield 3.1 as the appropriate model.⁵⁷⁰ The majority of the state members reiterate that the Commission should adopt a three-year phase-in for non-rural carriers, and state that such a transition would allow for evaluation of the accuracy of the model and continued examination of other methods of calculating universal service support.⁵⁷¹ These state members of the Joint Board depart from the Joint Board recommendation that a nationwide average revenue benchmark be used, and recommend the use of a benchmark based on the national average cost of service as determined by the BCPM.⁵⁷²

C. Universal Service Support Based on Forward-Looking Economic Cost

1. Overview

223. We agree with the Joint Board's recommendation that federal support should be calculated by determining the forward-looking economic cost of providing the supported services reduced by a nationwide revenue benchmark calculated on the basis of average revenue per line. Forward-looking economic cost will be determined at the state's election according to state-conducted forward-looking economic cost studies approved by the Commission, or cost models developed by the Commission, in consultation with the Joint Board. We further determine that, once we calculate the difference between forward-looking economic cost and the nationwide revenue benchmark, federal support will be 25 percent of that amount, corresponding to the percentage of interstate allocated loop costs. We will continue to consult with states, individually and collectively, to determine whether additional federal universal service support will be necessary to replace existing intrastate implicit universal support so that rates remain "just, reasonable and affordable."

⁵⁶⁷ Majority State Members' Second High Cost Report at 8.

⁵⁶⁸ A census block group is a geographic area defined by the Bureau of the Census which contains approximately 400 households.

⁵⁶⁹ Majority State Members' Second High Cost Report at 9-13.

⁵⁷⁰ Dissenting Statement of Chairman Julia Johnson and Chairman Sharon Nelson, dated Apr. 22, 1997 ("Johnson/Nelson Dissent") at 1.

⁵⁷¹ Majority State Members' Second High Cost Report at 15.

⁵⁷² Majority State Members' Second High Cost Report at 14.

2. Scope of Costs to be Supported

224. Use of Forward-Looking Economic Cost. We agree with the Joint Board's recommendation that the proper measure of cost for determining the level of universal service support is the forward-looking economic cost of constructing and operating the network facilities and functions used to provide the supported services as defined per section 254(c)(1).⁵⁷³ We agree with the Joint Board and many commenters that, in the long run, forward-looking economic cost best approximates the costs that would be incurred by an efficient carrier in the market.⁵⁷⁴ We concur with the Joint Board's finding that the use of forward-looking economic costs as the basis for determining support will send the correct signals for entry, investment, and innovation.⁵⁷⁵

225. We agree with the Joint Board that the use of forward-looking economic cost will lead to support mechanisms that will ensure that universal service support corresponds to the cost of providing the supported services, and thus, will preserve and advance universal service and encourage efficiency because support levels will be based on the costs of an efficient carrier.⁵⁷⁶ Because forward-looking economic cost is sufficient for the provision of the supported services, setting support levels in excess of forward-looking economic cost would enable the carriers providing the supported services to use the excess to offset inefficient operations or for purposes other than "the provision, maintenance, and upgrading of facilities and services for which the support is intended."⁵⁷⁷ This excess, by increasing the burden on all contributors to the support mechanisms, would also unnecessarily reduce the demand for other telecommunications services.

226. We also agree with the Joint Board that a forward-looking economic cost methodology is the best means for determining the level of universal service support.⁵⁷⁸ We find that a forward-looking economic cost methodology creates the incentive for carriers to operate efficiently and does not give carriers any incentive to inflate their costs or to refrain from

⁵⁷³ Recommended Decision, 12 FCC Rcd at 230-32. In using the term "forward-looking economic cost," we mean the cost of producing services using the least cost, most efficient, and reasonable technology currently available for purchase with all inputs valued at current prices.

⁵⁷⁴ Recommended Decision, 12 FCC Rcd at 230. *See, e.g.*, ITAA comments at 2; Texas PUC comments at 5; Chicago reply comments at 13.

⁵⁷⁵ *See* Business Software Alliance comments at 9-10; CNMI Representative comments; MCI reply comments at 2.

⁵⁷⁶ *See* Recommended Decision, 12 FCC Rcd at 232.

⁵⁷⁷ 47 U.S.C. § 254(e).

⁵⁷⁸ Recommended Decision, 12 FCC Rcd at 184.

efficient cost-cutting. Moreover, a forward-looking economic cost methodology could be designed to target support more accurately by calculating costs over a smaller geographical area than the cost accounting systems that the ILECs currently use. We note that California, Ohio, and Pennsylvania are using forward-looking economic cost studies for determining support levels in their intrastate universal service programs.⁵⁷⁹

227. Embedded Cost. Several ILECs have asserted that only a universal service mechanism that calculates support based on a carriers embedded cost⁵⁸⁰ will provide sufficient support.⁵⁸¹ As we discussed above, we agree with the Joint Board that the use of forward-looking economic cost will provide sufficient support for an efficient provider to provide the supported services for a particular geographic area. Thus, for the reasons articulated by the Joint Board, we conclude that the universal service support mechanisms should be based on forward-looking economic cost, and we reject the arguments for basing the support mechanisms on a carrier's embedded cost.⁵⁸²

228. As the Joint Board recognized, to the extent that it differs from forward-looking economic cost, embedded cost provide the wrong signals to potential entrants and existing carriers.⁵⁸³ The use of embedded cost would discourage prudent investment planning because carriers could receive support for inefficient as well as efficient investments. The Joint Board explained that when "embedded costs are above forward-looking costs, support of embedded costs would direct carriers to make inefficient investments that may not be financially viable when there is competitive entry."⁵⁸⁴ The Joint Board also explained that if embedded cost is below forward-looking economic cost, support based on embedded costs would erect an entry barrier to new competitors, because revenue per customer and support, together, would be less

⁵⁷⁹ See Cal. P.U.C. R.95-01-020/I.95-01-021 (Oct. 25, 1996); Public Utility Commission of Ohio, Commission Investigation Into the Establishment of Local Exchange Competition and Other Competitive Issues, *Entry on Rehearing*, Case No. 95-845-TP-COI (Nov. 7, 1996); Pennsylvania Public Utility Commission, Formal Investigation to Examine and Establish Updated Universal Service Principles and Policies for Telecommunications Services in the Commonwealth, *Opinion and Order*, Docket No. I-00940035 (entered Jan. 28, 1997). As discussed below, most states are also currently using forward-looking economic cost studies in proceedings to set interconnection rates for pricing access to unbundled network elements.

⁵⁸⁰ The term "embedded cost" refers to a carrier's historic loop or switching costs. The Joint Board used "embedded cost" as a synonym for the terms "booked cost" and "reported cost." See Recommended Decision, 12 FCC Rcd at 185 n.600.

⁵⁸¹ See, e.g., Minnesota Coalition comments at 17; ITC reply comments at 5; SBC reply comments at 11.

⁵⁸² See, e.g., Ameritech comments at 10; Roseville Tel. Co. comments at 11; SBC reply comments at 9.

⁵⁸³ See Recommended Decision, 12 FCC Rcd at 232.

⁵⁸⁴ Recommended Decision, 12 FCC Rcd at 232.

than the forward-looking economic cost of providing the supported services. Consequently, we agree with the Joint Board's conclusion that support based on embedded cost could jeopardize the provision of universal service.⁵⁸⁵ We also agree with CPI that the use of embedded cost to calculate universal service support would lead to subsidization of inefficient carriers at the expense of efficient carriers and could create disincentives for carriers to operate efficiently.⁵⁸⁶

229. We also decline to adopt Bell Atlantic's proposal to use state-averaged embedded line cost for setting universal service support levels.⁵⁸⁷ Under this proposal, states would receive universal service support if the statewide average cost for all carriers in that state exceed the nationwide average.⁵⁸⁸ By recommending the use of forward-looking economic cost to establish universal service support levels, the Joint Board did not accept this proposal. Even though the use of state-averaged costs might lessen disincentives for efficient operation and investment present in the existing universal service mechanisms as Bell Atlantic claims, we do not find that Bell Atlantic's particular proposal would eliminate those disincentives. In addition, support flows under this proposal would not target support to carriers serving high cost areas in states with low average embedded cost. That is, a carrier that serves high cost areas may not receive support for those areas, if the cost of serving other low cost areas in the state results in a low overall average cost of serving the state as a whole.

230. "Legacy" Cost. Several commenters assert that the use of forward-looking economic cost necessitates the establishment of a separate mechanism to reimburse ILECs for their "legacy cost,"⁵⁸⁹ which they define to include the under-depreciated portion of the plant and equipment.⁵⁹⁰ PacTel contends that moving to support mechanisms based on forward-looking economic cost would renege on a long-standing agreement between regulators and carriers regarding the recovery of the latter's costs.⁵⁹¹ Several ILECs further contend that unless we explicitly provide a mechanism for them to recover their under-depreciated costs, the use of forward-looking economic cost to determine universal service support would constitute a taking

⁵⁸⁵ Recommended Decision, 12 FCC Rcd at 232.

⁵⁸⁶ See CPI reply comments at 4.

⁵⁸⁷ See Bell Atlantic comments at 12-13.

⁵⁸⁸ See Bell Atlantic NPRM comments at 8-9.

⁵⁸⁹ PacTel defines "legacy" cost as "the costs associated with recovery (and in the interim, return on investment) for past investments in plant and equipment, previously found to be used and useful and includable in the ratebase for the purposes of providing regulated telecommunications services." PacTel comments at 6.

⁵⁹⁰ GTE comments at 31; PacTel comments at 8; U S West comments at 11.

⁵⁹¹ PacTel comments at 6-8.

under the Fifth Amendment.⁵⁹² No carrier, however, has presented any specific evidence that the use of forward-looking economic cost to determine support amounts will deprive it of property without just compensation. Indeed, the mechanisms we are creating today provide support to carriers in addition to other revenues associated with the provision of service.⁵⁹³

231. Construction Costs. U S West proposes to establish a separate support mechanism for the cost of constructing facilities. Under U S West's proposal, the carrier that first constructed the facility to serve an end user would receive support for its construction costs, even if the end user switched to another carrier. The second carrier to serve the end user would receive support only for its operational expenses.⁵⁹⁴ Under the U S West proposal, only the carrier that constructed first, generally an ILEC, except in currently unserved areas, would receive support to cover the facilities' construction costs. We observe that allowing only the ILEC to receive support for the construction of the facilities used to provide universal service would, however, discourage new entrants from constructing additional facilities in high cost areas, thereby discouraging facilities-based competition, in contravention of Congress's explicit goals. Further investigation is needed to determine whether there are special circumstances, such as the need to attract carriers to unserved areas or to upgrade facilities, in which it may or may not be reasonable to compensate one-time costs with one-time payments. Because we believe this issue should be examined further, we will consider this proposal in a future proceeding.

3. Determination of Forward-Looking Economic Cost For Non-Rural Carriers

232. Having adopted the Joint Board recommendation that universal service support be based upon forward-looking economic cost, we next consider how such cost should be determined. The Joint Board found that cost models provide an "efficient method of determining forward-looking economic cost, and provide other benefits, such as the ability to determine costs at smaller geographic levels than would be practical using the existing cost accounting system."⁵⁹⁵ The Joint Board also found that because they are not based on any individual company's costs, cost models provide a competitively neutral estimate of the cost of providing the supported services.⁵⁹⁶ Based on those conclusions, the Joint Board recommended

⁵⁹² See, e.g., Ameritech comments, att. at 4; GTE comments at 42; Western Alliance comments at 26-27.

⁵⁹³ The issues related to legacy costs will be addressed in the Access Reform Proceeding. See *Access Charge Reform Order* at section I.

⁵⁹⁴ U S West comments at 11-13.

⁵⁹⁵ Recommended Decision, 12 FCC Rcd at 230.

⁵⁹⁶ Recommended Decision, 12 FCC Rcd at 232.

that the amount of universal service support a carrier would receive should be calculated by subtracting a benchmark amount from the cost of service for a particular geographic area, as determined by the forward-looking economic cost model.⁵⁹⁷

233. The Joint Board discussed the three cost models that had been presented to it during the proceeding, but did not endorse a specific model.⁵⁹⁸ The Joint Board concluded that, before a specific model could be selected, several issues would need to be resolved, including how the various assumptions among the models regarding basic input levels were determined, which input levels were reasonable, what were the relationships among the inputs, why certain functionalities included in one model were not present in the other models, and which of the unique set of engineering design principles for each model were most reasonable.⁵⁹⁹

234. Three different forward-looking cost models were submitted to the Commission for consideration in response to the January 9 Public Notice: the BCPM; the Hatfield model; and the TECM.⁶⁰⁰ These three models use many different engineering assumptions and input values to determine the cost of providing universal service.⁶⁰¹ For example, Hatfield 3.1 uses loading coils in its outside plant to permit the use of longer copper loops, thereby reducing the amount of fiber required for outside plant.⁶⁰² In contrast, the BCPM relies more heavily on fiber and avoids the use of loading coils; this assumption increases the cost of service that BCPM predicts.⁶⁰³ Another example is that Hatfield designs the interoffice network required to provide local service in a multiple switch environment, while the BCPM accounts for this interoffice service

⁵⁹⁷ Recommended Decision, 12 FCC Rcd at 185.

⁵⁹⁸ Recommended Decision, 12 FCC Rcd at 229, 234. The Benchmark Cost Model (BCM), the Benchmark Cost Model 2 (BCM2), the Cost Proxy Model (CPM), and Hatfield Version 2.2, Release 2, models were submitted to the Joint Board for its consideration. *Id.* at 233-34. For a discussion of the BCM, BCM2, CPM, and Hatfield 2.2.2 models, *see id.* at 217-29. Appendix F of the Recommended Decision contained a review of the models. *See* Recommended Decision, 12 FCC Rcd at 529, app. F.

⁵⁹⁹ Recommended Decision, 12 FCC Rcd at 234.

⁶⁰⁰ A description of each of the models, as submitted to the Commission, is included in Appendix J.

⁶⁰¹ We intend to discuss the models, and the areas in which they need refinement, more fully in the FNPRM. At that time we will seek comments on these and other issues regarding the models, such as structure sharing, expenses, and depreciation rates.

⁶⁰² *See* Letter from Richard N. Clarke, AT&T, to William F. Caton, FCC, dated Feb. 28, 1997 (Hatfield Feb. 28 Submission). A loading coil is an induction device generally used with loops longer than 18,000 feet, that compensates for wire capacitance and boosts voice grade frequencies. *See* Newton's Telecom Dictionary (7th ed. 1994) at 611-12.

⁶⁰³ *See* Letter from Alan Ciamporcero, Pacific Telesis, Warren Hannah, Sprint, and Glenn Brown, U S West, to Office of the Secretary, FCC, dated Jan. 31, 1997 (BCPM Jan. 31 Submission).

by allowing the user to input a switch investment percentage.⁶⁰⁴

235. There has been significant progress in the development of the two major models -- the BCPM and Hatfield 3.1 -- since the Joint Board made its recommendation. For example, the ability of both models to identify which geographic areas are high cost for the provision of universal service has been improved. The BCPM uses seven different density groups, rather than the six zones used in the BCM2, to determine for a given CBG the mixture of aerial, buried, and underground plant, feeder fill factors, distribution fill factors, and the mix of activities in placing plant, such as aerial placement or burying, and the cost per foot to install plant.⁶⁰⁵ Hatfield also increased the number of density zones, going from six density zones in Hatfield Version 2.2.2 to nine in Hatfield 3.1.⁶⁰⁶

236. Other areas where the BCPM and Hatfield models have made advancements during this proceeding include assigning CBGs to the correct wire centers, the inclusion of costs associated with general support facilities, and recognition of multi-tenant housing. Previous versions of the models assigned CBGs to the closest serving wire center. BCPM associates the CBG with the wire center that actually serves the center point or centroid of the CBG.⁶⁰⁷ Hatfield 3.1 assigns each CBG to a wire center based on analysis of the NPA-NXXs in the CBG.⁶⁰⁸ Although BCM2 omitted capital costs and expenses associated with general support facilities, these costs are now included in BCPM.⁶⁰⁹ The Hatfield 3.1 model includes support capital cost and associated expenses for all of the general support asset accounts.⁶¹⁰ Hatfield 2.2 had omitted the cost associated with motor vehicles and other work equipment. The distribution algorithms of both models also have been enhanced to calculate the impact of multi-tenant housing on the amount of cable needed in the distribution network. In general, as more households are in multi-tenant units rather than single-family dwellings, the amount of cable

⁶⁰⁴ See BCPM Jan. 31 Submission; Hatfield Feb. 28 Submission

⁶⁰⁵ BCPM Jan. 31 Submission at 120.

⁶⁰⁶ The highest density zone in Hatfield 2.2.2 -- greater than 2,500 lines per square mile -- has been broken into three zones for Hatfield 3.1 -- 2,550-5,000, 5,001-10,000, and more than 10,000 lines per square mile -- to better differentiate dense suburban from dense downtown areas. The second lowest density zone in Hatfield 2.2.2, 5-200 lines per square mile, was divided into two zones, 5-100 and 101-200 lines per square mile, to provide more fine-grained distinctions within low density areas. Hatfield Feb. 28 Submission at 8.

⁶⁰⁷ See BCPM Jan 31 Submission at 3.

⁶⁰⁸ See Hatfield feb 28 Submission at 8. An NPA-NXX is a designation for the area code (NPA) and central office (NXX) numbers.

⁶⁰⁹ See BCPM Jan. 31 Submission, att. 9 at 131.

⁶¹⁰ Hatfield Feb. 28 Submission at 9.

required to serve the households decreases. These enhancements required changes in the mathematical relationships within the model and the gathering of additional data to be used as inputs to the enhanced algorithm.⁶¹¹

237. Another necessary requirement to identify high cost areas is the ability to determine the distribution of customers within the geographic area being examined. BCM and Hatfield 2.2.2 used a uniform distribution algorithm to locate customers within a CBG, the geographic area used by the models.⁶¹² This model assumes that customers are distributed evenly across the entire CBG area. Improving the accuracy of the models with regard to customer location should generate better estimates of the amount of outside cable required to serve the customers and, therefore, better estimates of the cost of the outside plant.

238. In response to criticisms of BCM, the BCM2 altered the customer distribution algorithm for low-density CBGs. The BCM2 did not alter the uniform distribution assumption, but reduced the area of the CBG in size by eliminating all segments of the CBG that do not fall within 500 feet of the road network.⁶¹³ BCPM incorporates the BCM2 customer distribution algorithm without change. Each CBG consists of a number of census blocks (CBs), and using the CB data would allow the model to match the estimated customer location to actual locations with greater accuracy than relying on more aggregated CBG data. The BCPM proponents plan to revise the algorithm to reflect CB data.⁶¹⁴

239. Hatfield 3.1 replaces the Hatfield 2.2.2 uniform distribution assumption with a clustering algorithm. The algorithm first determines the empty space within each CBG as the area in empty CBs. The algorithm then reduces the size of each area served by subtracting the calculated empty space area from the total area. In low population density CBGs, the algorithm clusters 85 percent of the population within a town rather than assuming that the population is distributed uniformly throughout the remaining CBG area. Finally, in extremely high population density CBGs, the algorithm assumes that the population lives in multi-unit dwellings.⁶¹⁵

240. While acknowledging remaining problems with the models in their report to the Commission, the state members of the Joint Board recommend that the Commission reject the

⁶¹¹ BCPM Jan. 31 Submission, att. 9, app. B at 6; Hatfield Feb. 28 Submission at 9.

⁶¹² MCI Communications, Inc., NYNEX Corporation, Sprint/United Management Co., and U S West, Inc., Benchmark Costing Model: A Joint Submission, Copyright 1995, CC Docket No. 80-286, filed December 1, 1995. Letter from Richard N. Clarke, AT&T, to William F. Caton, FCC, dated August 27, 1996.

⁶¹³ Letter from Warren Hannah, Sprint, to William F. Cation, FCC, dated July 15, 1996, attachment.

⁶¹⁴ BCPM Jan. 31 Submission at 3.

⁶¹⁵ Hatfield Feb. 28 Submission at 29-31.

TECM and select in this Order one of the remaining models to determine the needed level of universal service support in order to focus the efforts of industry participants and regulators.⁶¹⁶ Specifically, three of the state members recommend that the Commission select the BCPM as the platform from which to seek further refinement to the modeling process.⁶¹⁷ The state members of the Joint Board recommend that the non-rural carriers move to the use of a model over a three-year period. According to the state members, such a period will allow for continued evaluation of the model's accuracy and permit any needed improvements to be made before non-rural carriers receive support based solely on the model.⁶¹⁸ The state members of the Joint Board also recommend that the Commission and Joint Board members and staff work with the administrator to monitor the use of the model.⁶¹⁹

241. As we discussed previously, we agree with the Joint Board's recommendation that we should base universal service support for eligible telecommunications carriers on the forward-looking economic cost of constructing and operating the network used to provide the supported services.⁶²⁰ We agree with the state members that the TECM should be excluded from further consideration for use as the cost model because the proponents have never provided nationwide estimates of universal service support using that model. We also agree with the state members that there are many issues that still need to be resolved before a cost model can be used to determine support levels.⁶²¹ In particular, the majority state members note that the model input values should not be accepted. Instead, they suggest specific input values for the cost of equity, the debt-equity ratio, depreciation lives, the cost of switches, the cost of digital loop carrier equipment and the percentage of structures that should be shared.⁶²² The majority state members are also concerned with the models' logic for estimating building costs. They see no justification for tying building costs to the number of switched lines as Hatfield 3.1 does and they suggest that using BCPM's technique of estimating building costs as a percent of switch costs is not logical.⁶²³ In light of the wide divergence and frequent changes in data provided to us, we agree with the recommendation of the dissenting state members of the Joint Board that

⁶¹⁶ State High Cost Report at 1. The state members recommended that the TECM be excluded from consideration.

⁶¹⁷ See Majority State Members' Second High Cost Report at 1, 7; *contra* Johnson/Nelson Dissent.

⁶¹⁸ Majority State Members' Second High Cost Report at 4.

⁶¹⁹ Majority State Members' Second High Cost Report at 5.

⁶²⁰ Recommended Decision, 12 FCC Rcd at 230-32.

⁶²¹ See Majority State Members' Second High Cost Report at 9.

⁶²² See Majority State Members' Second High Cost Report at app. a, 1-5.

⁶²³ See Majority State Members' Second High Cost Report at 12-13.

we cannot at this time reasonably apply either of the models currently before us to calculate forward-looking economic costs of providing universal service.⁶²⁴

242. The proposed cost models also use widely varying input values to determine the cost of universal service, and in many cases the proponents have not filed the underlying justification for the use of those values. For example, BCPM no longer uses ARMIS expenses as the basis for its expense estimates. Instead, BCPM bases expenses on a survey of eight ILECs.⁶²⁵ Neither the survey instrument nor the individual carrier responses to the survey have been filed with the Commission. The proponents have not provided supporting information underlying their determinations of expenses.⁶²⁶ This lack of support fails to meet the Joint Board's criterion for evaluation that the underlying data and computations should be available to all interested parties.⁶²⁷ We agree with the state members of the Joint Board that this lack of support makes it impossible to determine whether the estimated expenses are the minimum necessary to provide service.⁶²⁸ The Hatfield 3.1 model also is based on information that has not been fully made available to the Commission and all interested parties. For example, the Hatfield 3.1 model adjusts the number of supported lines assigned to a CBG on the basis of an undisclosed algorithm. This algorithm has not been filed with the Commission. The application of this algorithm, however, increased the number of households in one state by 34 percent.⁶²⁹ Moreover, in regard to the fiber/copper cross-over point,⁶³⁰ the proponents of the Hatfield 3.1

⁶²⁴ See Johnson/Nelson Dissent at 1. See also letter Cheryl L. Parino, Wisconsin PSC, to FCC Commissioners, dated Apr. 28, 1997, at 1 ("I agree with Joint Board Commissioner Julia Johnson that none of the proxies in this proceeding is ready for use."); letter from Roger Hamilton, Joan H. Smith, and Ron Eachus, Oregon PUC, dated Apr. 18, 1997, at 2 ("[T]he FCC should not adopt a model at this time.").

⁶²⁵ BCPM Jan. 31 Submission, att. 10 at 155-157. For example, BCPM includes a \$2.76 per-line cable and wire maintenance expense as compared to BCM2, which set cable and wire plant specific expenses equal to 6.76 percent of model investment. See BCPM Jan. 31 submission, att. 10 at 157; Letter from Warren D. Hannah, Sprint, and Glenn H. Brown, U S West, to William F. Caton, dated Aug. 22, 1996, att. 17.

⁶²⁶ The expenses calculated by the cost methodologies include plant specific expenses such as the maintenance of facilities and equipment and plant non-specific expenses such as marketing, customer operations, and general corporate overhead.

⁶²⁷ See Recommended Decision, 12 FCC Rcd at 233. See also Majority State Members' Second High Cost Report at 5-6.

⁶²⁸ State High Cost Report at 19. See also Majority State Members' Second High Cost Report at 5-6, 13; Johnson/Nelson Dissent at 1-2.

⁶²⁹ FCC Staff comparison of Hatfield model data for Massachusetts. See Letter from Richard N. Clarke, AT&T, to William F. Caton, FCC, dated Sep. 10, 1996, attachment; Hatfield Feb. 28 Submission.

⁶³⁰ The fiber/copper cross-over point determines when carriers will use fiber cable instead of copper cable in the feeder plant. The feeder plant is the portion of the outside local subscriber plant that connects the wire center

model have submitted no studies to show that the decision concerning the cross-over point between the use of copper and fiber that they chose represents the least-cost configuration, as required by the Joint Board.⁶³¹

243. We also agree with the state members of the Joint Board that efforts to study the models have been severely hampered by the delays in their submission to the Commission and the constant updating of the models to correct technical problems, such as missing data.⁶³² For example, BCPM was originally submitted on January 8, 1997 with data only for Texas.⁶³³ The proponents then resubmitted the BCPM with data for fifty states on January 31, 1997.⁶³⁴ The Hatfield Model 3.0 was submitted on February 7, 1997 with data for five states, and resubmitted on February 28, 1997 with data for fifty states.⁶³⁵ The TECM was originally filed on January 7, 1997, and a revised version submitted on January 31, 1997.⁶³⁶ The complexity of these models, combined with the conflicting input assumptions, precludes sufficient analysis in the short interlude between the receipt of the models and issuance of this Order by the statutory deadline.

244. Despite significant and sustained efforts by the commenters and the Commission, the versions of the models that we have reviewed to date have not provided dependable cost information to calculate the cost of providing service across the country. The majority state members emphasize that their recommendation to use the BCPM is not an endorsement of all aspects of the model, but rather that they regard the model as the best platform at this time from which the Commission, state commissions, and interested parties can make collective revisions.⁶³⁷ Indeed, the report finds that neither the Hatfield 3.1 model nor the BCPM meets the criteria set out by the Joint Board pertaining to openness, verifiability, and plausibility.⁶³⁸ The report also discusses several specific issues that the majority state members of the Joint Board

to the service area interface, where the feeder plant connects to the distribution plant.

⁶³¹ See Recommended Decision, 12 FCC Rcd at 232.

⁶³² State High Cost Report at 1, 7; Majority State Members' Second High Cost Report at 5.

⁶³³ See Letter from Alan Ciamporcero, Pacific Bell, Warren Hannah, Sprint, and Glenn Brown, U S West, to William F. Caton, FCC, dated Jan. 8, 1997.

⁶³⁴ See BCPM Jan. 31 Submission.

⁶³⁵ See Hatfield Feb. 28 Submission.

⁶³⁶ See Comments of the New Jersey Division of the Ratepayer Advocate Concerning Improvements to the Telecom Economic Cost Model (filed Jan. 31, 1997) (New Jersey Advocate Jan. 31 *ex parte*).

⁶³⁷ Majority State Members' Second High Cost Report at 7.

⁶³⁸ Majority State Members' Second High Cost Report at 2, 5-6.

contend must be addressed before the BCPM can be considered for use in determining support levels, including the dispersion of population within a CBG, the plant-specific operating expenses used by the model, and interoffice local transport investment.⁶³⁹ We agree with the state members that there are significant unresolved problems with each of these cost models, such as the input values for switching costs, digital loop carrier equipment, depreciation rates, cost of capital, and structure sharing.⁶⁴⁰ We also agree with them that line count estimates should be more accurate and reflect actual ILEC counts.⁶⁴¹

245. Based on these problems with the models, we conclude that we cannot use any of the models at this time as a means to calculate the forward-looking economic cost of the network on which to base support for universal service in high cost areas. Consequently, we believe that it would be better to continue to review both the BCPM and Hatfield models.⁶⁴² Further review will allow the Commission and interested parties to compare and contrast more fully the structure and the input values used in these models. As two state members note, the process has benefitted by the healthy competition among the model proponents.⁶⁴³ We find that continuing to examine the various models will not delay our implementation of a forward-looking economic cost methodology for determining support for rural, insular, and high cost areas.⁶⁴⁴ As discussed above, we will issue a FNPRM on a forward-looking cost methodology for non-rural carriers by the end of June 1997. We anticipate that by the end of the year we will choose a specific model that we will use as the platform for developing that methodology. We anticipate that we will seek further comment on that selection and the refinements necessary to adopt a cost methodology by August 1998 that will be used for non-rural carriers starting on January 1, 1999. Consequently, as we explain below, we will continue using mechanisms currently in place to determine universal service support until January 1, 1999, while we resolve the issues related to the forward-looking economic cost models.

246. We also agree with the dissenting state members of the Joint Board that our actions are consistent with the requirements of section 254 because we have identified the

⁶³⁹ Majority State Members' Second High Cost Report at 3, 9-13.

⁶⁴⁰ State High Cost Report at 1; Majority State Members' Second State High Cost Report at 9-13; Johnson/Nelson Dissent at 1.

⁶⁴¹ See Majority State Members' Second High Cost Report at 11; Johnson/Nelson Dissent at 2.

⁶⁴² See Johnson/Nelson Dissent at 2.

⁶⁴³ Johnson/Nelson Dissent at 2.

⁶⁴⁴ See Johnson/Nelson Dissent at 2 ("It is more important to establish a timetable to allow the development of mechanisms which will accurately compensate companies for the provision of universal service and ensure continued affordability of basic rates for consumers.")

services to be supported by federal universal service support mechanisms,⁶⁴⁵ and we are setting forth a specific timetable for implementation of our forward-looking cost methodology.⁶⁴⁶ Moreover, our actions here are consistent with section 254's requirement that support should be explicit.⁶⁴⁷ Making "implicit" universal service subsidies "explicit" "to the extent possible"⁶⁴⁸ means that we have authority at our discretion to craft a phased-in plan that relies in part on prescription and in part on competition to eliminate subsidies in the prices for various products sold in the market for telecommunications services. Consequently, we reject the arguments that section 254 compels us immediately to remove all costs associated with the provision of universal service from interstate access charges.⁶⁴⁹ Under the timetable we have set forth here, we will over the next year identify implicit interstate universal support and make that support explicit, as further provided by section 254(e).⁶⁵⁰

247. We believe that the states can provide valuable assistance in our efforts to determine the cost of providing service in their areas because the states have been reviewing cost studies for several years and most recently have been reviewing forward-looking economic cost studies in the context of local interconnection, unbundling, and resale arbitrations and in the review of statements of generally available terms and conditions.⁶⁵¹ One alternative proposed by

⁶⁴⁵ See *supra* section IV.B.

⁶⁴⁶ Johnson/Nelson Dissent at 2 ("We would suggest, instead, that Section 254(a)(2) of the Telecommunications Act of 1996 clearly states that the FCC must only establish rules by May 8, 1997 which " . . . include a definition of the services that are supported by the Federal universal service support mechanisms and a specific timetable for implementation'.")

⁶⁴⁷ 47 U.S.C. § 254(e).

⁶⁴⁸ See Joint Explanatory Statement at 131.

⁶⁴⁹ See *Access Charge Reform Order* at section I.

⁶⁵⁰ Costs associated with the provision of universal service are presently intermingled with all other costs, including the forward-looking economic cost of interstate access and any historic costs associated with the provision of interstate access services. We cannot remove universal service costs from interstate access charges until we can identify those costs, which we will not be able to do, even for non-rural ILECs, before January 1, 1999.

⁶⁵¹ See, e.g. *Petition of AT&T Communications of the Midwest, Inc. for Arbitration pursuant to § 252(b) of the Telecommunications Act of 1996*, Docket No. Arb-96-3 (Iowa Utilities Board December 11, 1996); *Petition of AT&T Communications of the Pacific Northwest, Inc. for Arbitration of Interconnection Rates, Terms, and Conditions with GTE Northwest Incorporated Pursuant to 47 U.S.C. § 252(b)*, Order No. 97-021 (Oregon Public Utility Commission January 13, 1997); *Petition of AT&T Communications of the Mountain States, Inc. for Arbitration of Interconnection Contract Negotiations with U S West Communications, Inc.*, Docket No. 96A-345T (Colorado Public Utilities Commission November 27, 1996); *Petition of AT&T Communications of the Southern States, Inc. for Arbitration of Interconnection Rates, Terms and Conditions with BellSouth Telecommunications*,

some commenters is to use, as the basis for calculating the forward-looking economic cost of universal service, the cost studies relied upon by the states to determine the price of interconnection and unbundled network elements.⁶⁵² We reject the use of current, generally interim, state-adopted unbundled elements prices for determining the cost of providing supported services for two reasons. First, many of these prices are only interim in nature, and thus do not provide adequate predictability. Second, to the extent that unbundled network elements offered on the market provide services in addition to the supported services, the cost of those elements may exceed the cost of providing supported services. We affirm our belief, however, that the underlying state-conducted cost studies can be an appropriate basis upon which to determine the cost of providing universal service. We also affirm that state-conducted cost studies have the advantage of permitting states to coordinate the basis for pricing unbundled network elements and determining universal service support. This coordination can improve regulatory consistency and avoid such marketplace distortions as unbundled network element cost calculations unequal to universal service cost calculations for the elements that provide supported services. Such marketplace distortions may generate unintended and inefficient arbitrage opportunities. Thus, it is reasonable for the Commission to rely on this work by a state in determining federal universal service support for rural, insular, and high cost areas.

248. Therefore, as the basis for calculating federal universal service support in their states, we will use forward-looking economic cost studies conducted by state commissions that choose to submit such cost studies to determine universal service support. As discussed further below, we today adopt criteria appropriate for determining federal universal service support to guide the states as they conduct those studies. We ask states to elect, by August 15, 1997, whether they will conduct their own forward-looking economic cost studies. States that elect to conduct such studies should file them with the Commission on or before February 6, 1998. We will then seek comment on those studies and determine whether they meet the criteria we set forth. The Commission will review the studies and comments received, and only if we find that the state has conducted a study that meets our criteria will we approve those studies for use in calculating federal support for non-rural eligible telecommunications carriers rural, insular, and high cost areas to be distributed beginning January 1, 1999. We intend to work closely with the states as they conduct these forward-looking economic cost studies. We will also work together with the states and the Joint Board to develop a uniform cost study review plan that would standardize the format for presentation of cost studies in order to facilitate review by interested parties and by the Commission.

Inc. Under the Telecommunications Act of 1996, Docket No. 6801-U (Georgia Public Service Commission December 4, 1996); Petition of NYNEX for Arbitration of Interconnection Agreements with Teleport Communications Group, Inc., Brooks Fiber Communications, AT&T Communications of New England, Inc., MCI Communications Company, and Sprint Communications Company, L.P. Pursuant to Section 252(b) of the Telecommunications Act of 1996, Nos. 96-73174, 96-75, 96-80/81, 96-83, 96-94 (Massachusetts Department of Public Utilities December 4, 1996).

⁶⁵² See BANX reply comments at 14-15.

249. If a state elects not to conduct its own forward-looking economic cost study or that the state-conducted study fails to meet the criteria we adopt today, the Commission will determine the forward-looking economic cost of providing universal service in that state according to the Commission's forward-looking cost methodology. We will seek the Joint Board's assistance in developing our method of calculating forward-looking economic cost, which we intend to develop by building on the work already done by the Joint Board, its staff, and industry proponents of various cost models. We will issue a FNPRM by the end of June 1997 seeking additional information on which to base the development of a reliable means of determining the forward-looking economic cost of providing universal service. We shall also separately seek information on issues such as the actual cost of purchasing switches, the current cost of digital loop carriers, and the location of customers in the lowest density areas.

250. Criteria for Forward-Looking Economic Cost Determinations. Whether forward-looking economic cost is determined according to a state-conducted cost study or a Commission-determined methodology, we must prescribe certain criteria to ensure consistency in calculations of federal universal service support. Consistent with the eight criteria set out in the Joint Board recommendation,⁶⁵³ we agree that all methodologies used to calculate the forward-looking economic cost of providing universal service in rural, insular, and high cost areas must meet the following criteria:

- (1) The technology assumed in the cost study or model must be the least-cost, most-efficient, and reasonable technology for providing the supported services that is currently being deployed. A model, however, must include the ILECs' wire centers as the center of the loop network and the outside plant should terminate at ILECs' current wire centers. The loop design incorporated into a forward-looking economic cost study or model should not impede the provision of advanced services. For example, loading coils should not be used because they impede the provision of advanced services.⁶⁵⁴ We note that the use of loading coils is inconsistent with the Rural Utilities Services guidelines for network deployment by its borrowers.⁶⁵⁵ Wire center line counts should equal actual ILEC wire center line counts, and the study's or model's average loop length should reflect the incumbent carrier's actual average loop length.
- (2) Any network function or element, such as loop, switching, transport, or signaling, necessary to produce supported services must have an associated cost.

⁶⁵³ The state members of the Joint Board also evaluated the models based on whether they meet the criteria set out in the Joint Board recommendation. *See* Majority State Members' Second State High Cost Report at 2-6.

⁶⁵⁴ *See* Majority State Members' Second High Cost Report at 7.

⁶⁵⁵ RUS model reply comments at 4.

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- (3) Only long-run forward-looking economic cost may be included. The long-run period used must be a period long enough that all costs may be treated as variable and avoidable. The costs must not be the embedded cost of the facilities, functions, or elements. The study or model, however, must be based upon an examination of the current cost of purchasing facilities and equipment, such as switches and digital loop carriers (rather than list prices).
- (4) The rate of return must be either the authorized federal rate of return on interstate services, currently 11.25 percent, or the state's prescribed rate of return for intrastate services. We conclude that the current federal rate of return is a reasonable rate of return by which to determine forward looking costs.⁶⁵⁶ We realize that, with the passage of the 1996 Act, the level of local service competition may increase, and that this competition might increase the ILECs' cost of capital.⁶⁵⁷ There are other factors, however, that may mitigate or offset any potential increase in the cost of capital associated with additional competition. For example, until facilities-based competition occurs, the impact of competition on the ILEC's risks associated with the supported services will be minimal because the ILEC's facilities will still be used by competitors using either resale or purchasing access to the ILEC's unbundled network elements.⁶⁵⁸ In addition, the cost of debt has decreased since we last set the authorized rate of return.⁶⁵⁹ The reduction in the cost of borrowing caused the Common Carrier Bureau to institute a preliminary inquiry as to whether the currently authorized federal rate of return is too high, given the current marketplace cost of equity and debt.⁶⁶⁰ We will re-evaluate the cost of capital as needed to ensure that it accurately reflects the market situation for carriers.
- (5) Economic lives and future net salvage percentages used in calculating depreciation expense must be within the FCC-authorized range. We agree with those commenters that argue that currently authorized lives should be used because the assets used to provide universal service in rural, insular, and high cost

⁶⁵⁶ See Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers, *Order*, 5 FCC Rcd 7507 (1990), *recon.*, 6 FCC Rcd 7193 (1991).

⁶⁵⁷ See *Workshop Jan. 15 Transcript*, panel three.

⁶⁵⁸ NCTA model reply comments at 17.

⁶⁵⁹ See Common Carrier Bureau Sets Pleading Schedule in Preliminary Rate of Return Inquiry, *Public Notice*, 11 FCC Rcd 3651 (Com. Car. Bur. 1996).

⁶⁶⁰ See Common Carrier Bureau Sets Pleading Schedule in Preliminary Rate of Return Inquiry, *Public Notice*, 11 FCC Rcd 3651 (Com. Car. Bur. 1996).

areas are unlikely to face serious competitive threat in the near term.⁶⁶¹ To the extent that competition in the local exchange market changes the economic lives of the plant required to provide universal service, we will re-evaluate our authorized depreciation schedules.⁶⁶² We intend shortly to issue a notice of proposed rule making to further examine the Commission's depreciation rules.

- (6) The cost study or model must estimate the cost of providing service for all businesses and households within a geographic region. This includes the provision of multi-line business services, special access, private lines, and multiple residential lines. Such inclusion of multi-line business services and multiple residential lines will permit the cost study or model to reflect the economies of scale associated with the provision of these services.
- (7) A reasonable allocation of joint and common costs must be assigned to the cost of supported services. This allocation will ensure that the forward-looking economic cost does not include an unreasonable share of the joint and common costs for non-supported services.
- (8) The cost study or model and all underlying data, formulae, computations, and software associated with the model must be available to all interested parties for review and comment. All underlying data should be verifiable, engineering assumptions reasonable, and outputs plausible.⁶⁶³
- (9) The cost study or model must include the capability to examine and modify the critical assumptions and engineering principles. These assumptions and principles include, but are not limited to, the cost of capital, depreciation rates, fill factors, input costs, overhead adjustments, retail costs, structure sharing percentages, fiber-copper cross-over points, and terrain factors.
- (10) The cost study or model must deaverage support calculations to the wire center serving area level at least, and, if feasible, to even smaller areas such as a Census Block Group, Census Block, or grid cell. We agree with the Joint Board's recommendation that support areas should be smaller than the carrier's service

⁶⁶¹ Gabel model comments at 53; NCTA model reply comments at 18-19.

⁶⁶² The Commission prescribes depreciation rates for 33 ILECs. Depreciation rates for each of these ILEC are represetcribed every three years. The economic lives reflected in those schedules have been shortened considerably from those that were used ten to fifteen years ago.

⁶⁶³ *See, e.g.*, GTE comments at 28; RTC comments at 4; TDS Telecom comments at 21.

area in order to target efficiently universal service support.⁶⁶⁴ Although we agree with the majority of the commenters that smaller support areas better target support,⁶⁶⁵ we are concerned that it becomes progressively more difficult to determine accurately where customers are located as the support areas grow smaller. As SBC notes, carriers currently keep records of the number of lines served at each wire center, but do not know which lines are associated with a particular CBG, CB, or grid cell.⁶⁶⁶ Carriers, however, would be required to provide verification of customer location when they request support funds from the administrator.

251. In order for the Commission to accept a state cost study submitted to us for the purposes of calculating federal universal service support, that study must be the same cost study that is used by the state to determine intrastate universal service support levels pursuant to section 254(f).⁶⁶⁷ A state need not perform a new cost study, but may submit a cost study that has already been performed for evaluation by the Commission.⁶⁶⁸ We also encourage a state, to the extent possible and consistent with the above criteria, to use its ongoing proceedings to develop permanent unbundled network element prices as a basis for its universal service cost study. This would reduce duplication and diminish arbitrage opportunities that might arise from inconsistencies between the methodologies for setting unbundled network element prices and for determining universal service support levels. In particular, we wish to avoid situations in which, because of different methodologies used for pricing unbundled network elements and determining universal service support, a carrier could receive support for the provision of universal service that differs from the rate it pays to acquire access to the unbundled network elements needed to provide universal service.⁶⁶⁹ Consequently, to prevent differences between

⁶⁶⁴ See Recommended Decision, 12 FCC Rcd at 181.

⁶⁶⁵ See, e.g., GTE comments at 57; Washington UTC comments at 3; USTA model comments at 20.

⁶⁶⁶ SBC comments at 22. The Bureau of the Census defines "census blocks" as "small areas bounded on all sides by visible features such as streets, roads, streams, and railroad tracks, and by invisible boundaries such as city, town, township, and county limits, property lines, and short, imaginary extensions of streets and roads." Bureau of the Census, United States Department of Commerce, 1990 Census of population and Housing, A-3. It further defines a "census block group" as "generally contain[ing] between 250 and 550 housing units, with the ideal size being 400 housing units." *Id.* at A-4. A "grid cell" is an approximately four-tenths of a square mile (3,000 ft by 3,000 ft). See Recommended Decision, 12 FCC Rcd at 222.

⁶⁶⁷ 47 U.S.C. § 254(e).

⁶⁶⁸ Such a state cost study would still need to meet the criteria set out herein.

⁶⁶⁹ Methodological differences such as different geographic divisions or different input assumptions could result in a divergence between the cost calculation for that (albeit limited) set of unbundled elements required to provide supported services to a particular customer and the universal service cost calculation for providing

the pricing of unbundled network elements and the determination of universal service support, we urge states to coordinate the development of cost studies for the pricing of unbundled network elements and the determination of universal service support.⁶⁷⁰

4. Determination of Forward-Looking Economic Cost For Rural Carriers

252. Development and Selection of a Suitable Forward-Looking Support Mechanism for Rural Carriers. Consistent with our plan for non-rural carriers, we shall commence a proceeding by October 1998 to establish forward-looking economic cost mechanisms for rural carriers. Although a precise means of determining forward-looking economic cost for non-rural carriers will be prescribed by August 1998 and will take effect on January 1, 1999, rural carriers will begin receiving support pursuant to support mechanisms incorporating forward-looking economic cost principles only when we have sufficient validation that forward-looking support mechanisms for rural carriers produce results that are sufficient and predictable. Consistent with the Joint Board's recommendation that mechanisms for determining support for rural carriers incorporate forward-looking cost principles, rather than embedded cost, we will work closely with the Joint Board, state commissions, and interested parties to develop support mechanisms that satisfy these principles.

253. To ensure that the concerns of rural carriers are thoroughly addressed, Pacific Telecom suggests that a task force be established specifically to study the development and impact of support mechanisms incorporating forward-looking economic cost principles for rural carriers. State Joint Board members and USTA have also recommended the formation of a rural task force to study and develop a forward-looking economic cost methodology for rural carriers.⁶⁷¹ The state Joint Board members contend that such a task force "should provide valuable assistance in identifying the issues unique to rural carriers and analyzing the

supported services to that same customer. The following arbitrage opportunity could result. Suppose universal service cost calculations indicate that the cost of providing supported services to a particular customer is \$50. If the benchmark were \$20, then the support per line for serving customers in that geographic area would be \$30. Suppose also that the cost of unbundled network elements for the supported service is calculated with a different methodology, which results in a \$20 cost of serving the same customer. This outcome places entrants using unbundled network elements to provide the supported services at a competitive advantage -- if they serve such customers with unbundled network elements purchased for \$20, but receive universal service support of \$30, entrants benefit from the \$10 differential that results from the different methodologies.

⁶⁷⁰ See Letter from Julia L. Johnson, Florida Public Service Commission, to Reed Hundt, FCC, dated Apr. 22, 1997, at 3 (warning of the difficulties inherent in using state cost studies designed for pricing unbundled network elements for universal services purposes, but noting that there may be merit in performing comparisons between proxy model results and those of unbundled network element cost studies.")

⁶⁷¹ State High Cost Report at 4; USTA model comments at 7-8.

appropriateness of proxy cost models for rural carriers."⁶⁷² We support this suggestion. Such a task force should report its findings to the Joint Board. We encourage the Joint Board to establish the task force soon, so that its findings can be included in any Joint Board report to the Commission prior to our issuance of the FNPRM on a forward-looking economic cost methodology for rural carriers by October 1998. Although the Joint Board has the responsibility to appoint the members of the task force, we suggest that it include a broad representation of industry, including rural carriers, as well as a representative from remote and insular areas. We also suggest that the meetings and records of the task force be open to the public.

254. The Commission, with the Joint Board's assistance, will develop appropriate cost inputs and review a model's performance to target support narrowly to those specific geographic areas that have high costs for the provision of universal service. This will help to ensure that rural carriers receive support at a level that will enable them to provide supported services at affordable rates. The support level provided to rural carriers should also be sufficient to encourage the deployment of the most efficient technology available and the availability of advanced services in rural areas.

255. Specifically, through the FNPRM, we will seek to determine what mechanisms incorporating forward-looking economic cost principles would be appropriate for rural carriers. We require that mechanisms developed and selected for rural carriers reflect the higher operating and equipment costs attributable to lower subscriber density, small exchanges, and lack of economies of scale that characterize rural areas, particularly in insular and very remote areas, such as Alaska. We also require that cost inputs be selected so that the mechanisms account for the special characteristics of rural areas in its cost calculation outputs. We recognize the unique situation faced by carriers serving Alaska and insular areas may make selection of cost inputs for those carriers especially challenging. Thus, if the selected mechanisms include a cost model, the model should use flexible inputs to accommodate the variation in cost characteristics among rural study areas due to each study area's unique population distribution. Moreover, the Commission, working with the Joint Board, state commissions, and other interested parties, will determine whether calculating the support using geographic units other than CBGs would more accurately reflect a rural carrier's costs. The Commission will likewise consider whether such mechanisms should include a "maximum shift or change" feature to ensure that the amount of support each carrier receives will not fluctuate more than an established amount from one year to the next, similar to the provision in section 36.154(f)(1) of the Commission's rules to mitigate separations and high cost fund changes.⁶⁷³

⁶⁷² State High Cost Report at 4.

⁶⁷³ Once a carrier's transition to a 25 percent allocation factor has been achieved, however, the five percent limitation in the change no longer applies. *See* Florida Public Service Commission Request for Interpretation of the Applicability of the Limit on Change in Interstate Allocation, Section 36.154(f) of the Commission's Rules, *Order*, FCC 97-83 (rel. Mar. 17, 1997); 47 C.F.R. § 36.154(f)(1).

256. The Commission with the Joint Board's assistance will also consider whether a competitive bidding process could be used to set support levels for rural carriers. The record does not support adoption of competitive bidding as a support mechanism at this time.⁶⁷⁴ The FNPRM will examine the development of such a competitive bidding process that will meet the requirements of both sections 214(e) and 254.

5. Applicable Benchmarks

257. The Joint Board recommended that the Commission adopt a benchmark based on nationwide average revenue per line to calculate the support eligible telecommunications carriers would receive for serving rural, insular, and high cost areas.⁶⁷⁵ The Joint Board recommended that the support that an eligible telecommunications carrier receives for serving a supported line in a particular geographic area should be the cost of providing service calculated using forward-looking economic cost minus a benchmark amount.⁶⁷⁶ The benchmark is the amount subtracted from the cost of providing service that is the basis for determining the support provided from the federal universal service support mechanisms.

258. The Joint Board recommended setting the benchmark at the nationwide average revenue per line, because "that average reflects a reasonable expectation of the revenues that a telecommunications carrier would be reasonably expected to use to offset its costs, as estimated in the proxy model."⁶⁷⁷ Because it recommended that eligible residential and single-line business be supported, with single-line businesses receiving less support, the Joint Board recommended defining two benchmarks, one for residential service and a second for single-line business service. Because they found that a revenue-based benchmark will require periodic review and more administrative oversight than a cost-based benchmark, however, the majority state members of the Joint Board recommended, in their second report to the Commission, the use of a benchmark based on the nationwide average cost of service as determined by the cost model.⁶⁷⁸

259. We agree with the Joint Board's recommendation,⁶⁷⁹ and intend to establish a

⁶⁷⁴ See *infra* section VII.E.

⁶⁷⁵ Recommended Decision, 12 FCC Rcd at 246.

⁶⁷⁶ Recommended Decision, 12 FCC Rcd at 185.

⁶⁷⁷ Recommended Decision, 12 FCC Rcd at 247.

⁶⁷⁸ Majority State Members' Second High Cost Report at 14.

⁶⁷⁹ Recommended Decision, 12 FCC Rcd at 246.

nationwide benchmark based on average revenues per line for local, discretionary,⁶⁸⁰ interstate and intrastate access services, and other telecommunications revenues that will be used with either a cost model or a cost study to determine the level of support carriers will receive for lines in a particular geographic area.⁶⁸¹ A non-rural eligible telecommunications carrier could draw from the federal universal service support mechanism for providing supported services to a subscriber only if the cost of serving the subscriber, as calculated by the forward-looking cost methodology, exceeds the benchmark. We note that a majority of the commenters support the use of a benchmark based on revenues per line.⁶⁸² We also agree with the Joint Board that there should be separate benchmarks for residential service and single-line business service.⁶⁸³

260. Consistent with the Joint Board's recommendation, we shall include revenues from discretionary services in the benchmark.⁶⁸⁴ We agree with Time Warner that a determination of the amount of support a carrier needs to serve a high cost area should reflect consideration of the revenues that the carrier receives from providing other local services, such as discretionary services.⁶⁸⁵ As the Joint Board noted, those revenues offset the costs of providing local service.⁶⁸⁶ Setting the benchmark at a level below the average revenue per line, including discretionary services, would allow a carrier to recover the costs of discretionary services from customers purchasing these discretionary services and from the universal service mechanisms. This unnecessary payment would increase the size of the universal service support mechanisms, and consequently require larger contributions from all telecommunications carriers. Although we agree with MFS that competition could reduce revenues from a particular service,⁶⁸⁷ we anticipate that the development of competition in the local market will also lead to the development of new services that will produce additional revenues per line and to reductions in the costs of providing the services generating those revenues.⁶⁸⁸ As suggested by the Joint

⁶⁸⁰ The Joint Board stated that "[d]iscretionary services include services that are added on to basic local service, e.g., call waiting, call forwarding or caller ID." Recommended Decision, 12 FCC Rcd at 246, n. 1002.

⁶⁸¹ We note that a benchmark is not required if support is developed through a competitive bidding process because the eligible carriers' bids will be based on their required support levels and not costs.

⁶⁸² See, e.g., Ad Hoc comments at 11; Cincinnati Bell comments at 9; ALTS reply comments at 3.

⁶⁸³ Recommended Decision, 12 FCC Rcd at 247.

⁶⁸⁴ Recommended Decision, 12 FCC Rcd at 246.

⁶⁸⁵ Time Warner comments at 16.

⁶⁸⁶ Recommended Decision, 12 FCC Rcd at 247.

⁶⁸⁷ MFS comments at 24.

⁶⁸⁸ For example, many ILECs are currently marketing voice recognition services.

Board, we will also review the benchmark at the same time we review the means for calculating forward-looking economic cost.⁶⁸⁹ Thus, at these periodic reviews, we can adjust both the forward-looking cost methodology and the benchmark to reflect the positive effects of competition.

261. We include revenues from discretionary services in the benchmark for additional reasons. The costs of those services are included in the cost of service estimates calculated by the forward-looking economic cost models that we will be evaluating further in the FNPRM.⁶⁹⁰ Revenues from services in addition to the supported services should, and do, contribute to the joint and common costs they share with the supported services. Moreover, the former services also use the same facilities as the supported services, and it is often impractical, if not impossible, to allocate the costs of facilities between the supported services and other services. For example, the same switch is used to provide both supported services and discretionary services. Consequently, in modeling the network, the BCPM and the Hatfield 3.1 models use digital switches capable of providing both supported services and discretionary services. Therefore, it would be difficult for the models to extract the costs of the switch allocated to the provision of discretionary services.

262. We also include both interstate and intrastate access revenues in the benchmark, as recommended by the Joint Board.⁶⁹¹ Access to IXC's and to other local wire centers is provided by a part of the switch known as the port. The methodologies filed in this proceeding include the costs of the port as costs of providing universal service. The BCPM, however, subtracts a portion of port costs allocated to toll calls. Hatfield 3.1, in contrast, includes all port costs in the costs of providing supported services. Both methodologies exclude per-minute costs of switching that are allocated to toll calls. Therefore, the methodologies filed in this proceeding do not include all access costs in the costs of providing universal service. Access charges to IXC's, however, have historically been set above costs as one implicit mechanism supporting local service. We therefore conclude that, unless and until both interstate and intrastate access charges have been reduced to recover only per-minute switch and transport costs, access revenues should be included in the benchmark. Accordingly, we reject the proposals by some commenters to exclude revenues from discretionary and access services in calculating the benchmark.⁶⁹²

263. We also agree with the Joint Board that setting the benchmark at nationwide average revenue per line is reasonable because that average reflects a reasonable expectation of

⁶⁸⁹ See MFS comments at 24; ALTS reply comments at 3.

⁶⁹⁰ Recommended Decision, 12 FCC Rcd at 246-47.

⁶⁹¹ Recommended Decision, 12 FCC Rcd at 246.

⁶⁹² See, e.g., ALLTEL comments at 9; Cincinnati Bell comments at 9; GTE reply comments at 31-32.

the revenues that a telecommunications carrier could use to cover its costs, as estimated by the forward-looking cost methodology we are adopting.⁶⁹³ A nationwide benchmark will also be easy to administer and will make the support levels more uniform and predictable than a benchmark set at a regional, state, or sub-state level would make them. A nationwide benchmark, as the Joint Board noted, will also encourage carriers to market and introduce new services in high costs areas as well as urban areas, because the benchmark will vary depending upon the average revenues from carriers serving all areas. For that reason, contrary to the contentions of some commenters,⁶⁹⁴ we conclude that a nationwide benchmark will not harm carriers serving rural areas but rather encourage them to introduce new services. We note that support levels for rural carriers will be unaffected by the benchmark unless and until they begin to transition to a forward-looking cost methodology, which would occur no earlier than 2001. Further, we note that the states have discretion to provide universal service support beyond that included in the federal universal service support mechanism.⁶⁹⁵

264. We agree the Joint Board's recommendation to adopt two separate benchmarks, one for residential service and a second for single-line business services.⁶⁹⁶ Because business service rates are higher than residential service rates, we consider those additional revenue derived from business services when developing the benchmark.⁶⁹⁷ We note that the only parties who have opposed adopting separate benchmarks contend that, because ILECs do not keep separate records for residential and business revenues, separate benchmarks would be administratively difficult.⁶⁹⁸ We do not believe, however, that using two revenue benchmarks will be administratively difficult. For purposes of universal service support, the eligible telecommunications carrier need not determine the exact revenues per service, but only the number of eligible residential and business connections it serves in a particular support area. To calculate support levels, the administrator will take the cost of service, as derived by the forward-looking cost methodology, and subtract the applicable benchmark and multiply that number by the number of eligible residential or business lines served by the carrier in that support area.

265. We are not persuaded to adopt any of the other methods of determining a

⁶⁹³ Recommended Decision, 12 FCC Rcd at 247.

⁶⁹⁴ See Roseville Tel. Co. comments at 13-14; TDS Telecom comments at 35.

⁶⁹⁵ See 47 U.S.C. § 254(f).

⁶⁹⁶ Recommended Decision, 12 FCC Rcd at 247.

⁶⁹⁷ See 1996 Monitoring Report, CC Docket No. 87-339, May 1996, prepared by the Federal and State Staff for the Federal-State Joint Board in CC Docket No. 80-286, Tables 5.7 and 5.8, at 468-469.

⁶⁹⁸ See Roseville Tel. Co. comments at 6; TDS Telecom comments at 35-36.

nationwide benchmark proposed by the commenters. We decline to adopt a benchmark based on household income, because we agree with the Joint Board that issues related to subscriber levels should be addressed through programs directed at helping low-income households obtain and retain telephone service.⁶⁹⁹ We likewise reject a benchmark based on local service rates, because such a benchmark would ignore the revenues that carriers receive from other services that contribute to the joint and common costs of providing those and the supported services.⁷⁰⁰

266. The majority state members depart from the Joint Board recommendation and now suggest the use of a cost-based benchmark. They contend that it may be difficult to match the revenue used in a benchmark with the cost of service included in the model. They also argue that a revenue benchmark would require periodic review and more regulatory oversight than a cost-based benchmark.⁷⁰¹ Although we recognize there may be some difficulties in using a revenue-based benchmark, we agree with the Joint Board that a cost-based benchmark should not be relied upon at this time.⁷⁰² As the Joint Board noted, it is best to compare the revenue to the cost to determine the needed support rather than to examine only the cost side of the equation.⁷⁰³ A cost-based benchmark, as Time Warner states, does not reflect the revenue already available to a carrier for covering its costs for the supported services.⁷⁰⁴ Even in some areas with above average costs, revenue can offset high cost without resort to subsidies, resulting in maintenance of affordable rates.⁷⁰⁵ We also agree with the majority state members of the Joint Board that a cost-based benchmark will not completely satisfy the objective of ensuring that only a reasonable allocation of joint and common costs are assigned to the cost of the supported services.⁷⁰⁶ Although the majority state members of the Joint Board now express concern about the difficulty in matching the service revenue and the cost of services included in a model,⁷⁰⁷ we remain confident that we can do that. We also do not find that it will be administratively

⁶⁹⁹ Recommended Decision, 12 FCC Rcd at 247-48.

⁷⁰⁰ See Time Warner comments at 15-16.

⁷⁰¹ Majority State Members' Second High Cost Report at 14.

⁷⁰² Recommended Decision, 12 FCC Rcd at 249.

⁷⁰³ Recommended Decision, 12 FCC Rcd at 249.

⁷⁰⁴ Time Warner comments at 16.

⁷⁰⁵ See Ohio PUC comments at 48 (while rural ILECs often have small calling areas, with low basic service rates, they receive substantial revenues from toll service).

⁷⁰⁶ Majority State Members' Second High Cost Report at 15.

⁷⁰⁷ Majority State Members' Second High Cost Report at 14.

difficult to establish and maintain a revenue-based benchmark,⁷⁰⁸ and intend to review the benchmark when we review the forward-looking economic cost methodology. Consequently, we will not adopt a cost-based benchmark at this time, but will, as the majority state members of the Joint Board suggest,⁷⁰⁹ address in the FNPRM the specific benchmark that should be used.

267. As stated above, we have determined that the revenue benchmark should be calculated using local service, access, and other telecommunications revenues received by ILECs, including discretionary revenue. Based on the data we have received in response to the data request from the Federal-State Joint Board in CC Docket 80-286 (80-286 Joint Board) on universal service issues, it appears that the benchmark for residential services should be approximately \$31 and for single-line businesses should be approximately \$51.⁷¹⁰ We recognize, as did the Joint Board, that the precise calculation of the level of the benchmark must be consistent with the means of calculating the forward-looking economic costs of constructing and operating the network. Thus, we do not adopt a precise calculation of the benchmark at this time, but will do so after we have had an opportunity to review state cost studies and the study or model that will serve as the methodology for determining forward looking economic costs in those states that do not conduct cost studies. We will also seek further information, particularly to clarify the appropriate amounts of access charge revenue and intraLATA toll revenue that should be included in the revenue benchmark.

6. Share of Support Provided by Federal Universal Service Support Mechanisms

268. As we discuss in detail later, we have determined to assess contributions for the universal service support mechanisms for rural, insular, and high cost areas solely from interstate revenues.⁷¹¹ We have adopted this approach because the Joint Board did not recommend that we should assess intrastate as well as interstate revenues for the high cost support mechanisms and because we have every reason to believe that the states will participate in the federal-state universal service partnership so that the high cost mechanisms will be sufficient to guarantee that rates are just, reasonable, and affordable. Therefore, we do not, in this Order, attempt to identify existing state-determined intrastate implicit universal service support presently effected through

⁷⁰⁸ *Contra* Majority State Members' Second High Cost Report at 14.

⁷⁰⁹ Majority State Members' Second High Cost Report at 15.

⁷¹⁰ See Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board, *Order*, 9 FCC Rcd 7962 (Com.Car.Bur. 1994). Summing all ILEC responses to data requests showed that the average residential total monthly bill for local and toll service was \$50.69 per month in 1994 and that the average local residential local bill was \$25.93 per month in 1994. Subtracting taxes and surcharges from and adding access revenues to average residential bills results in ILEC revenues per line of \$30.71 in 1994.

⁷¹¹ See *infra* section X.E.

intrastate rates or other intrastate rules, and because we do not attempt to convert such implicit intrastate support into explicit federal universal service support. Instead, the support for rural, insular, and high cost areas served by non-rural carriers distributed through forward-looking economic cost based mechanisms need only support interstate costs. Of course, we will monitor the high cost mechanisms to determine whether additional federal support becomes necessary.⁷¹²

269. Accordingly, we must determine the federal and state shares of the costs of providing high cost service. We have concluded that the federal share of the difference between a carrier's forward looking economic cost of providing supported services and the national benchmark will be 25 percent. Twenty-five percent is the current interstate allocation factor applied to loop costs in the Part 36 separations process, and because loop costs will be the predominant cost that varies between high cost and non-high cost areas, this factor best approximates the interstate portion of universal service costs.

270. Prior to the adoption of the 25 percent interstate allocation factor for loop costs, the Commission allocated most non-traffic sensitive (NTS) plant costs on the basis of a usage-based measure, called the Subscriber Plant Factor (SPF).⁷¹³ In 1984, the Commission and the 80-286 Joint Board recognized that there was no purely economic method of allocating NTS costs on a usage-sensitive basis.⁷¹⁴ Therefore, the Commission adopted a fixed interstate allocation factor to separate loop costs between the interstate and intrastate jurisdictions. In establishing a 25 percent interstate allocation factor for loop costs, the Commission was guided by the following four principles adopted by the 80-286 Joint Board: "(1) Ensure the permanent protection of universal service; (2) provide certainty to all parties; (3) be administratively workable; and (4) be fair and equitable to all parties."⁷¹⁵ Because we find that the four principles adopted by the 80-286 Joint Board are consistent with the principles set out in section 254(b) and because universal service support is largely attributable to high NTS loop costs,⁷¹⁶ we find that applying the 25 percent interstate allocation factor historically applied to loop costs in the Part 36 separations process is appropriate here.

⁷¹² We note that parties have sought to have all of separations determined on a fixed factor basis. If we adopt such a change in our upcoming separations proceeding, we would conform the federal percentage of high cost support as well.

⁷¹³ See *Amendment of Part 67*, 96 FCC 2d at 786.

⁷¹⁴ See *Amendment of Part 67*, 96 FCC 2d at 789.

⁷¹⁵ Jurisdictional Separations Procedures, *Second Recommended Decision and Order*, CC Docket 80-286, 48 Fed. Reg. 46556 (Oct. 13, 1983).

⁷¹⁶ The level of high cost support is also a function of switching and local inter-office transport costs. These additional costs, however, do not vary significantly in different support areas and would have a relatively low impact on the total universal service support mechanisms.

271. As noted above, we believe that the states will fulfill their role in providing for the high cost support mechanisms. Indeed, we note that there is evidence that such state support is substantial, as states have used a variety of techniques to maintain low residential basic service rates, including geographic rate averaging, higher rates for business customers, higher intrastate access rates, higher rates for intrastate toll service, and higher rates for discretionary services.⁷¹⁷ The Commission does not have any authority over the local rate setting process or the implicit intrastate universal service support reflected in intrastate rates. We believe that it would be premature for the Commission to substitute explicit federal universal service support for implicit intrastate universal service support before states have completed their own universal service reforms through which they will identify the support implicit in existing intrastate rates and make that support explicit.⁷¹⁸ Although we are not, at the outset, providing federal support for intrastate, as well as interstate, costs associated with providing universal services, we will monitor the high cost mechanisms to ensure that they are sufficient to ensure just, reasonable, and affordable rates. We expect that the Joint Board and the states will do the same and we hope to work with the states in further developing a unified approach to the high cost mechanisms.

272. We also believe that, as competition develops, the marketplace itself will help to identify intrastate implicit universal service support, and that marketplace forces will compel states to generate that support through explicit, sustainable mechanisms consistent with section 254(e). Competition will not arrive in all places at the same time, so the approach we adopt today will allow the Commission to work with the states, both collectively and individually, to ensure that states are able to accomplish their own transition from implicit support to explicit universal service support. Again, the Commission, working with the Joint Board, will continue to monitor universal service support needs as states implement explicit intrastate universal service support mechanisms, and will assess with the assistance of the state commissions whether additional federal universal service support is necessary to ensure that quality services remain "available at just, reasonable and affordable rates."⁷¹⁹

D. Mechanisms for Carriers Until Support is Provided Based on Forward-Looking Economic Cost

1. Non-Rural Carriers

273. We will continue to use the existing high cost support mechanisms for non-rural carriers through December 31, 1998, by which time we will have a forward-looking cost

⁷¹⁷ See, e.g., Letter from Kenneth Rust, NYNEX, to William F. Cation, FCC, dated Sep. 25, 1996, att. at 3; R. Crandall, L. Waverman, *Talk Is Cheap: The Promise of Regulatory Reform in North American Telecommunications* (1995) at 84.

⁷¹⁸ See *infra* section X.E.

⁷¹⁹ 47 U.S.C. § 254(b)(1).

methodology in place for non-rural carriers. We are also adopting rules that will make this support portable, or transferable, to competing eligible telecommunications carriers when they win customers from ILECs or serve previously unserved customers. We also shall limit the amount of corporate operations expenses that an ILEC can recover through high cost loop support. We shall also extend the indexed cap on the growth of the high cost loop fund. These modifications to the existing mechanisms shall take effect on January 1, 1998.

274. We anticipate that mechanisms based on existing support will be in effect for non-rural carriers only until December 31, 1998. We find that, because we will continue to base support on the existing mechanisms for such a short period, we do not think it necessary to make significant changes to the existing universal service support mechanisms prior to the introduction of the forward-looking economic cost mechanisms.

275. Although the Joint Board defined universal service to include support for single residential and business lines only, we join the state members of the Joint Board in recognizing that an abrupt withdrawal of support for multiple lines may significantly affect the operations of carriers currently receiving support for businesses and residential customers using multiple lines. Again, because we will only continue to use the existing support mechanisms for 1998, we find that non-rural carriers should continue to receive high cost assistance and LTS for all lines. We shall continue to evaluate whether support for second residential lines, second residences, and multiple line businesses should be provided under the forward-looking economic cost methodology.⁷²⁰

276. Alternative Options. We have considered different methods for calculating support until a forward-looking economic cost methodology for non-rural carriers becomes effective. First, we could extend application of the Joint Board's recommendation for rural carriers to non-rural carriers and provide high loop cost support and LTS benefits on a per-line basis for all high cost carriers, based on amounts received for each line that are set at previous years' embedded costs. We decline to take that approach, however, because we, like the state members of the Joint Board, are concerned that a set per-line support level may not provide carriers adequate support because such support does not take into consideration any necessary and efficient facility upgrades by the carrier.⁷²¹ We are persuaded by the commenters that this set per-line methodology may have an adverse impact on carriers that are currently receiving high cost support.⁷²²

277. A second alternative would be to calculate costs based on the models before us,

⁷²⁰ See *supra* section IV.D.

⁷²¹ See State High Cost Report at 2.

⁷²² See, e.g., Evans Tel. Co. comments at 8; TDS Telecom comments at 39; ITC reply comments at 3.

either by choosing a model or taking an average from the results of the models.⁷²³ As we have stated, flaws in and unanswered questions about the models that have been submitted in this proceeding prevent us from choosing one now to determine universal service support levels. For example, the proponents use widely divergent input values for structure sharing and switch costs to determine the cost of providing service.⁷²⁴ We agree with the commenters that these variations account for a large part of the difference in results between the models.⁷²⁵ We also agree with the state members of the Joint Board that the current versions of the models are flawed in how they distribute households within a CBG.⁷²⁶ The BCPM and Hatfield models also inaccurately determine the wire centers serving many customers.⁷²⁷ These inaccuracies can create great variance in the costs of service determined by the models. In some instances these inaccuracies lead to predictions that some rural carriers with only a few wire centers may not serve any customers or serve far fewer customers than they actually do. For those reasons, we find that it would better serve the public interest not to use the current versions of the models, but to continue to work with the model proponents, industry, and the state commissions to improve the models before we select one to determine universal service support. Likewise, we find that taking an average of the models will not address their underlying flaws.

278. At this point we conclude that we should not select one model over another because both models lack a compelling design algorithm that specifies where within a CBG customers are located. The BCPM model continues to uniformly distribute customers within the CBG, and therefore spreads customers across empty areas and generates lot sizes that appear to be larger than the actual lot sizes. On the other hand, the clustering algorithm used in the Hatfield 3.1 model requires that 85 percent of the population live within two or four clusters within a CBG. This requirement could misrepresent actual population locations when the population is clustered differently. We also find that it will be helpful in the selection of a forward-looking economic cost methodology to have different models to compare and contrast.⁷²⁸ We are confident that we will be able to gather sufficient data in the approaching months to select a forward-looking economic cost methodology.

⁷²³ See Letter from Warren D. Hannah, Sprint, to William F. Caton, FCC dated March 21, 1997, attachment.

⁷²⁴ We will be specifically addressing the differences in the inputs used by the proponents in the FNPRM.

⁷²⁵ See, e.g., ALTS post-workshop comments at 3; Aliant model comments at 2.

⁷²⁶ State High Cost Report at 8.

⁷²⁷ See State High Cost Report at 8.

⁷²⁸ See Johnson/Nelson Dissent at 2; NCTA model reply comments att. at iii. See also Statement of Ben Johnson, Ben Johnson Associates, *Workshop Jan. 14 Transcript* at 16-17; Statement of Robert Mercer, Hatfield Associates, *Workshop Jan. 15 Transcript* at 237.

279. A third alternative is the proposal made by BANX to base universal support on prices for unbundled network elements.⁷²⁹ We reject this alternative because the record before us indicates that the states have yet to set prices for all of the unbundled network elements needed to provide universal service, including loop, inter-office transport, and switching. In addition, to the extent states have established pricing for such elements, that pricing is only interim.⁷³⁰

280. We conclude that the public interest is best served by using high cost mechanisms that allow carriers to continue receiving support at current levels while we continue to work with state regulators to select a forward-looking economic cost methodology. This approach will ensure that carriers will not need to adjust their operations significantly in order to maintain universal service in their service areas pending adoption of a forward-looking economic cost methodology. It will also allow the carriers and the Commission time to analyze and consider other regulatory changes now occurring, such as access charge reform, and the effects of growing competition in the local exchange market, as part of the process of selecting the forward-looking economic cost methodology.

281. Indexed Cap. In order to allow an orderly conversion to the new universal service mechanisms, the Joint Board on June 19, 1996 recommended extending the interim cap limiting growth in the Universal Service Fund until the effective date of the rules the Commission adopts pursuant to section 254 and the Joint Board's recommendation.⁷³¹ We adopted that recommendation on June 26, 1996.⁷³² Because we will continue to use the existing universal service mechanisms, with only minor modifications, until the forward-looking economic cost mechanisms become effective, we clarify that the indexed cap on the Universal

⁷²⁹ BANX reply comments at 14-15.

⁷³⁰ In arbitrating interconnection disputes, states are generally setting interim rather than permanent rates. *See, e.g., Petition of AT&T Communications of the Mountain States, Inc. for Arbitration of Interconnection Rates, Terms, and Conditions With U S West Communications, Inc.*, Docket No. U-2428-96-417 (Arizona Corporation Commission December 10, 1996); *Petition of AT&T Communications, Inc. for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Pacific Bell*, Application 96-08-040 (California Public Utilities Commission December 11, 1996); *Petition of AT&T Communications of New York, Inc. for Arbitration of an Interconnection Agreement with New York Telephone Company*, Case No. 96-C-0723 (New York Public Service Commission November 29, 1996); *Petition of AT&T Communications of Virginia, Inc., for Arbitration of Unresolved Issues From the Interconnection Negotiations with GTE South, Inc.*, Case No. PUC960117 (Virginia State Corporation Commission December 11, 1996). We also note that the part of the Commission's *Local Competition Order* concerning forward-looking costs has been stayed. *See Local Competition Order*, 11 FCC Rcd. 15,499, stayed in part pending judicial review sub. nom. *Iowa Utilities Bd. v. FCC*, 109 F.3d 418 (8th Cir. 1996).

⁷³¹ Federal-State Joint Board on Universal Service, *Recommended Decision*, 11 FCC Rcd 7928 (1996).

⁷³² Federal-State Joint Board on Universal Service, *Report and Order*, 11 FCC Rcd 7920 (1996).

Service Fund will remain in effect until all carrier receive support based on a forward-looking economic cost mechanism. We anticipate that non-rural carriers will begin receiving universal service support based on the forward-looking economic cost mechanisms on January 1, 1999.

282. Continued use of this indexed cap will prevent excessive growth in the size of the fund during the period preceding the implementation of a forward-looking support mechanisms. We find that a cap will encourage carriers to operate more efficiently by limiting the amount of support they receive. From our experience with the indexed cap on the current high cost support mechanisms, implemented pursuant to the recommendations of the Joint Board in the 80-286 proceeding, we find that the indexed cap effectively limits the overall growth of the fund, while protecting individual carriers from experiencing extreme reductions in support.⁷³³

283. Corporate Operations Expense. In order to ensure that carriers use universal service support only to offer better service to their customers through prudent facility investment and maintenance consistent with their obligations under section 254(k),⁷³⁴ we shall limit the amount of corporate operations expense that may be recovered through the support mechanisms for high loop costs.⁷³⁵ A limitation on the inclusion of such expenses was proposed in the 80-286 NPRM.⁷³⁶ Commenters in this proceeding and the 80-286 proceeding generally support limiting the amount of corporate operations expense that can be recovered through the high cost mechanisms because costs not directly related to the provision of subscriber loops are not necessary for the provision of universal service.⁷³⁷ Most commenters suggest that there be a cap on the amount of corporate operations expense that a carrier is allowed to recover through the

⁷³³ See Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board, *CC Docket No. 80-286, Report and Order*, 9 FCC Rcd 303 (1993). See also Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board, *CC Docket No. 80-286, Report and Order*, 11 FCC Rcd 2538 (1996).

⁷³⁴ 47 U.S.C. § 254(k).

⁷³⁵ Corporate operations expense are recorded in Account 6710 (Executive and planning) and Account 6720 (General and administrative). See 47 C.F.R. §§ 32.6710 and 32.6720.

⁷³⁶ Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board, *Notice of Proposed Rule Making and Notice of Inquiry*, 10 FCC Rcd 12309 (1995) (80-286 NPRM) at 12324. The Commission initiated a rule making proceeding in CC Docket No. 80-286 to modify the current support mechanism for high cost and small telephone companies. The primary goals of that proceeding were to eliminate barriers to competitive entry, contain the size of the fund at a reasonable level, and promote efficient investment and operation of local service networks. *Id.* at paras. 5, 17-75. The Commission incorporated into this proceeding the portion of the record from CC Docket 80-286 that relates to changing the support mechanisms found in Part 36 of the Commission's rules. NPRM at para. 39.

⁷³⁷ See, e.g., New York DPS NPRM comments at 6; AT&T NPRM further comments at 2-4, app. A; Sprint 80-286 NPRM comments at 10-14; NASUCA 80-286 NPRM comments at 11-12.

universal service mechanism,⁷³⁸ but some assert that these expenses should not be allowed at all.⁷³⁹ We agree with the commenters that these expenses do not appear to be costs inherent in providing telecommunications services, but rather may result from managerial priorities and discretionary spending.⁷⁴⁰ Consequently, we intend to limit universal service support for corporate operations expense to a reasonable per-line amount, recognizing that small study areas, based on the number of lines, may experience greater amounts of corporate operations expense per line than larger study areas.

284. We conclude that, for each carrier, the amount of corporate operations expense per line that is supported through our universal service mechanisms should fall within a range of reasonableness. We shall define this range of reasonableness for each study area as including levels of reported corporate operations expense per line up to a maximum of 115 percent of the projected level of corporate operations expense per line. The projected corporate operations expense per line for each service area will be based on the number of access lines and calculated using a formula developed from a statistical study of data submitted by NECA in its annual filing.⁷⁴¹

285. Furthermore, we will grant study area waivers only for expenses that are consistent with the principle in section 254(e) that carriers should use universal service support for the "provision, maintenance, and upgrading of facilities and services for which the support is

⁷³⁸ See, e.g., NECA NPRM further comments (Commission could limit the amount of such expenses included in high cost support); GTE 80-286 NPRM comments at 43 (Commission should establish limits on the amount of such expenses included in high cost support); NYNEX 80-286 NPRM comments at 14-15 (might be reasonable to cap the level of such expenses).

⁷³⁹ See, e.g., Ad Hoc Telecom NPRM comments at 12; AT&T NPRM further comments at 2-4; ACTA 80-286 NPRM comments at 9.

⁷⁴⁰ See, e.g., Washington UTC NPRM further comments at 17; MCI 80-286 NPRM comments at 10-16; MFS 80-286 NPRM comments at 12.

⁷⁴¹ For study areas with 10,000 loops or fewer, the amount per line shall be \$27.12 - (0.002 x the number of access lines). For study areas with more than 10,000 lines, the amount per line shall be \$7.12. This formula represents the relationship between corporate operating expenses per line for the typical company and its number of access lines. A study of the data for corporate operating expenses per line and access lines suggests that these costs per line decline as access lines increase to 10,000, at which point these costs per line become approximately flat. A regression technique was applied to this information that showed corporate operating expenses per line declining as the number of access lines increases for those companies with fewer than 10,000 access lines and remaining constant for companies with more than 10,000 lines. A spline function technique was used to force the two linear regressions with different slopes to meet at the point of 10,000 lines. The parameters in the formula are taken from the coefficients estimated with this regression. FCC Staff Analysis of Universal Service Fund 1996 Submission of 1995 Study Results by the National Exchange Carrier Association (filed Oct. 1, 1996).

intended."⁷⁴² Consistent with our limitation on corporate operations expense discussed above, we believe that corporate operations expense in excess of 115 percent of the projected levels are not necessary for the provision of universal service, and therefore, absent exceptional circumstances, we will not grant waivers to provide additional support for such expenses. To the extent a carrier's corporate operations expense is disallowed pursuant to these limitations, the national average unseparated cost per loop shall be adjusted accordingly.

286. Portability of Support. Under section 254(e), eligible telecommunications carriers are to use universal service support for the provision, maintenance, and upgrading of facilities and services for which the support is intended.⁷⁴³ When a line is served by an eligible telecommunications carrier, either an ILEC or a CLEC, through the carrier's owned and constructed facilities, the support flows to the carrier because that carrier is incurring the economic costs of serving that line.

287. In order not to discourage competition in high cost areas, we adopt the Joint Board's recommendation to make carriers' support payments portable to other eligible telecommunications carriers prior to the effective date of the forward-looking mechanism. A competitive carrier that has been designated as an eligible telecommunications carrier shall receive universal service support to the extent that it captures subscribers' lines formerly served by an ILEC receiving support or new customer lines in that ILEC's study area. At the same time, the ILEC will continue to receive support for the customer lines it continues to serve. We conclude that paying the support to a CLEC that wins the customer's lines or adds new subscriber lines would aid the emergence of competition.⁷⁴⁴ Moreover, in order to avoid creating a competitive disadvantage for a CLEC using exclusively unbundled network elements, that carrier will receive the universal service support for the customer's line, not to exceed the cost of the unbundled network elements used to provide the supported services. The remainder of the support associated with that element, if any, will go the ILEC to cover the ILEC's economic costs of providing that element in the service area for universal service support.⁷⁴⁵

288. During the period in which the existing mechanisms are still defining high cost support for non-rural carriers, we find that the least burdensome way to administer the support

⁷⁴² 47 U.S.C. § 254(e).

⁷⁴³ 47 U.S.C. § 254(e).

⁷⁴⁴ Non-rural carriers that currently receive high cost loop support get between \$.04 and \$13.55 per line per month in support for their study areas. Staff Analysis of Universal Service Fund 1996 Submission of 1995 Study Results by the National Exchange Carrier Association (filed Oct. 1, 1996).

⁷⁴⁵ For loops, the CLEC will receive the lesser of the unbundled network element price for the loop or the ILEC's per-line draw from the high cost loop support and LTS, if any. Because non-rural ILECs are ineligible for DEM weighting, the CLEC will not receive any support for switching costs.

mechanism will be to calculate an ILEC's per-line support by dividing the ILEC's universal service support payment under the existing mechanisms by the number of loops served by that ILEC. That amount will be the support for all other eligible telecommunications carriers serving customers within that ILEC's study area.⁷⁴⁶

289. We are not persuaded by commenters that assert that providing support to CLECs based on the incumbents' embedded costs gives preferential treatment to competitors and is thus contrary to the Act and the principle of competitive neutrality.⁷⁴⁷ While the CLEC may have costs different from the ILEC, the CLEC must also comply with Section 254(e), which provides that "[a] carrier that receives such support shall use that support only for the provision, maintenance, and upgrading of facilities and services for which the support is intended." Furthermore, because a competing eligible telecommunications carrier must provide service and advertise its service throughout the entire service area, consistent with section 214(e), the CLEC cannot profit by limiting service to low cost areas. If the CLEC can serve the customer's line at a much lower cost than the incumbent, this may indicate a less than efficient ILEC. The presence of a more efficient competitor will require that ILEC to increase its efficiency or lose customers. State members of the Joint Board concur with our determinations regarding the portability of support.⁷⁴⁸

290. As previously stated, we conclude that carriers that provide service throughout their service area solely through resale are not eligible for support. In addition, we clarify the Joint Board's recommendation on eligibility and find that carriers that provide service to some customer lines through their own facilities and to others through resale are eligible for support only for those lines they serve through their own facilities.⁷⁴⁹ The purpose of the support is to compensate carriers for serving high cost customers at below cost prices. When one carrier serves high cost lines by reselling a second carrier's services, the high costs are borne by the second carrier, not by the first, and under the resale pricing provision the second carrier receives revenues from the first carrier equal to end-user revenues less its avoidable costs. Therefore it is the second carrier, not the first, that will be reluctant to serve absent the support, and therefore it should receive the support.

⁷⁴⁶ When the support is based on the forward-looking economic costs of serving lines in a particular geographic area, the carrier that serves the line, either the ILEC or the CLEC, will receive the support for that line, sharing only if the CLEC takes that loop as an unbundled network element at a rate less than the universal service support for that line. At that time the support level will no longer be based on the ILEC's support per line under the existing support mechanisms. *See supra* section VI.

⁷⁴⁷ *See, e.g.*, Evans Tel. Co. comments at 12; RTC comments at 15; Western Alliance comments at 14.

⁷⁴⁸ State High Cost Report at 3.

⁷⁴⁹ *See supra* section VI.B. for a discussion of what constitutes a carrier's own facilities.

2. Rural Carriers

291. Use of Embedded Cost to Set Support Levels for Rural Carriers. We adopt the Joint Board's recommendation that, after a reasonable period, support for rural carriers also should be based on their forward-looking economic cost of providing services designated for universal service support. Although it recommended using forward-looking economic cost calculated by using a cost model to determine high cost support for all eligible telecommunications carriers, the Joint Board found that the proposed models could not at this time precisely model small, rural carriers' cost.⁷⁵⁰ The Joint Board expressed concern that, if the proposed models were applied to small, rural carriers, the models' imprecision could significantly change the support that such carriers receive, providing carriers with funds at levels insufficient to continue operations or, at the other extreme, a financial windfall.⁷⁵¹ The Joint Board noted that, compared to the large ILECs, small, rural carriers generally serve fewer subscribers, serve more sparsely populated areas, and do not generally benefit from economies of scale and scope as much as non-rural carriers.⁷⁵² Rural carriers often also cannot respond to changing operating circumstances as quickly as large carriers.⁷⁵³ We agree with the Joint Board and adopt its recommendation that rural carriers not use a cost model or other means of determining forward-looking economic cost immediately to calculate their support for serving rural high cost areas, but we do support an eventual shift from the existing system.

292. Like the Joint Board, we disagree with commenters that contend that using embedded cost is the only way to set the level of universal service support needed for rates to be affordable. Because rural carriers' contributions to universal service support mechanisms will be small relative to the support they will draw, we do not find persuasive RTC's contention that the Commission should maintain the current support mechanisms because rural carriers may suffer significant reductions in net support if all carriers are required to contribute to the new universal service mechanisms.⁷⁵⁴ We also find no statutory mandate that we calculate universal service support based on embedded cost.⁷⁵⁵ Rather, we conclude that the 1996 Act's mandate to foster competition in the provision of telecommunications services in all areas of the country and the principle of competitive neutrality compel us to implement support mechanisms that will send

⁷⁵⁰ Recommended Decision, 12 FCC Rcd at 234-35.

⁷⁵¹ Recommended Decision, 12 FCC Rcd at 235.

⁷⁵² Recommended Decision, 12 FCC Rcd at 235. *See also* Harris comments at 3; ICORE comments at 12; Minnesota Coalition comments at 18.

⁷⁵³ Recommended Decision, 12 FCC Rcd at 234-35.

⁷⁵⁴ RTC comments at 14.

⁷⁵⁵ *See* Minnesota Coalition comments at 13.

accurate market signals to competitors. We find that the current support mechanisms neither ensure that ILECs are operating efficiently nor encourage them to do so. Indeed, by guaranteeing carriers recovery of 100 percent of all loop costs in excess of 150 percent of the national average loop cost, the current high cost funding mechanisms effectively discourage efficiency. Thus, we agree with CSE that calculating high cost support based on embedded cost is contrary to sound economic policy. We conclude that basing support on forward-looking economic cost or perhaps competitive bidding will require telecommunications carriers to operate efficiently and will facilitate the move to competition in all telecommunications markets.

293. Use of a Forward-Looking Economic Cost Methodology by Small Rural Carriers. We acknowledge commenters' concerns that the proposed mechanisms incorporating forward-looking economic cost methodologies filed in this proceeding should not in their present form be used to calculate high cost support for small, rural carriers. At present, we recognize that these mechanisms cannot presently predict the cost of serving rural areas with sufficient accuracy.⁷⁵⁶ Consistent with the Joint Board's recommendation, we anticipate, however, that forward-looking support mechanisms that could be used for rural carriers within the continental United States will be developed within three years of release of this Order.⁷⁵⁷ We conclude that a forward-looking economic cost methodology consistent with the principles we set forth in this section should be able to predict rural carriers' forward-looking economic cost with sufficient accuracy that carriers serving rural areas could continue to make infrastructure improvements and charge affordable rates. Like the Joint Board, we conclude that calculating support using such a forward-looking economic cost methodology would comply with the Act's requirements that support be specific, predictable, and sufficient and that rates for consumers in rural and high cost areas be affordable and reasonably comparable to rates charged for similar services in urban areas. Moreover, such a mechanism could target support by calculating costs over a smaller geographical area than the study areas currently used. In addition, we find that the use of mechanisms incorporating forward-looking economic cost principles would promote competition in rural study areas by providing more accurate investment signals to potential competitors. Accordingly, we find that, rather than causing rural economies to decline, as some commenters contend, the use of such a forward-looking economic cost methodology could bring greater economic opportunities to rural areas by encouraging competitive entry and the provision of new services as well as supporting the provision of designated services.⁷⁵⁸ Because support will be calculated and then distributed in predictable and consistent amounts, such a forward-

⁷⁵⁶ See, e.g., GVNW comments at att. B, 3, 4; John Staurulakis comments at 4; Minnesota Coalition comments at 18; Roseville comments at 12; ALLTEL reply comments at 3; RTC reply comments at 2.

⁷⁵⁷ Pending further review, we will not require rural carriers in Alaska and insular areas to calculate support based on a forward-looking cost method. See *infra* regarding the treatment of rural carriers in insular areas.

⁷⁵⁸ See, e.g., Evans Tel. Co. comments at 9; RUS comments at 1; Universal Service Alliance comments at 4; Western Alliance comments at 2.

looking economic cost methodology would compel carriers to be more disciplined in planning their investment decisions. We are thus unpersuaded by Minnesota Coalition's argument that rural service areas are too small to enable carriers to make investments at consistent levels each year.

294. Conversion to a Forward-Looking Economic Cost Methodology. Consistent with the Joint Board, we recognize that new universal service funding mechanisms could significantly change (but not necessarily diminish) the amount of support rural carriers receive. Moreover, we agree that compared to large ILECs, rural carriers generally serve fewer subscribers, serve more sparsely populated areas, and do not generally benefit as much from economies of scale and scope. For many rural carriers, universal service support provides a large share of the carriers' revenues, and thus, any sudden change in the support mechanisms may disproportionately affect rural carriers' operations. Accordingly, we adopt the Joint Board's recommendation to allow rural carriers to continue to receive support based on embedded cost for at least three years. Once a forward-looking economic cost methodology for non-rural carriers is in place, we shall evaluate mechanisms for rural carriers. Rural carriers will shift gradually to a forward-looking economic cost methodology to allow them ample time to adjust to any changes in the support calculation.

295. Treatment of Rural Carriers. We conclude that a gradual shift to a forward-looking economic cost methodology for small, rural carriers is consistent with the Act and our access charge reform proceeding. Section 251(f)(1) grants rural telephone companies an exemption from section 251(c)'s interconnection requirements, under specific circumstances, because Congress recognized that it might be unfair to both the carriers and the subscribers they serve to impose all of section 251's requirements upon rural companies.⁷⁵⁹ Furthermore, the companion *Access Charge Reform Order* limits application of the rules adopted in that proceeding to price-cap ILECs.⁷⁶⁰ The *Access Charge Reform Order* concludes that access reform for non-price-cap ILECs, which tend to be small, rural carriers, will occur separately from reform for price-cap ILECs because small, rural ILECs, which generally are under rate-of-return regulation, may not be subject to some of the duties under section 251(b) and (c) and will likely not have competitive entry into their markets as quickly as price cap ILECs will

⁷⁵⁹ For example, section 251(f)(1) exempts rural telephone companies from the requirements of section 251(c)(2) until the rural telephone company has received a bona fide request for interconnection, services, or network elements, and the state commission determines that the exemption should be terminated. In addition, section 251(f)(2) permits ILECs with fewer than two percent of the nation's subscriber lines to petition a state commission for a suspension or modification of any requirements of sections 251(b) and (c). See *Local Competition Order*, 11 FCC Rcd at 16,118; 47 U.S.C § 251(b), (c) and (f).

⁷⁶⁰ *Access Charge Reform Order* at section V. The price-cap ILECs affected by the *Access Charge Reform Order* include the seven Regional Bell Operating Companies (Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Bell, SBC, U S West), Citizens Utilities, Frontier, GTE, Aliant (formerly Lincoln), SNET, and United/Central.

experience.⁷⁶¹ Because the Commission's access reform proceeding does not propose generally to change access charge rules for non-price-cap ILECs, we find without merit Minnesota Coalition's argument that the current embedded-cost support mechanisms must be maintained because changes to Part 69 may cause rural carriers' revenues to decrease.⁷⁶² Consistent with our approach towards non-price-cap ILECs in access charge reform, we conclude that rural carriers' unique circumstances warrant our implementation of separate mechanisms.

296. Supported Lines. In the process of selecting a forward-looking economic cost methodology for calculating universal service support for carriers serving high cost areas, we will determine whether lines other than primary residential and single business connections should be eligible for support. For this reason, we conclude that rural carriers should continue to receive high cost loop assistance, DEM weighting, and LTS support for all their working loops until they move to a forward-looking economic cost methodology. State members of the Joint Board concur with this determination.⁷⁶³

297. Modifications to Existing Support Mechanisms. The Joint Board recommended that for the three years beginning January 1, 1998, high cost support for rural ILECs be calculated based on high cost loop support, DEM weighting, and LTS benefits for each line based on historic support amounts. We are persuaded, however, by the commenters⁷⁶⁴ and the recent State High Cost Report that, even in the absence of new plant construction, this may not provide rural carriers adequate support for providing universal service because support to offset cost increases in maintenance expenses due to natural disasters or inflation would not be available. We also find that, in order to maintain the quality of the service they offer their customers, carriers may not be able to avoid upgrading their facilities. We find that, consistent with the State High Cost Report, the level of support recommended by the Joint Board may not permit carriers to afford prudent facility upgrades.

298. The state members recommend that the Commission adopt an industry proposal regarding the determination of the needed amount of support for rural carriers rather than the recommendation of the Joint Board. Expressing concern that setting high cost support, DEM

⁷⁶¹ *Access Charge Reform Order* at section V.

⁷⁶² *Access Charge Reform Order* at section V. Price-cap ILECs that serve rural areas, however, are not exempt from the Commission's rules in the *Access Charge Reform Order*. We note in our response to Citizens Utilities' request in the access charge reform proceeding for exemption from some of the rules adopted in that order that a carrier's election of price cap regulation is an indication that it believes it can achieve a higher rate of productivity under price-cap regulation than under rate-of-return regulation. See *Access Charge Reform Order* at section V.

⁷⁶³ State High Cost Report at 2.

⁷⁶⁴ See, e.g., Evans Tel. Co. comments at 8, 9; ITC comments at 4, 5; RTC comments at 12; Rural Alliance comments at 7; TCA comments at 2; USTA comments at 8; Western Alliance comments at 37.

weighting, and LTS at the current per-line amount could discourage carriers from investing in their networks, the state members endorse a proposal that would: (1) use a carrier's embedded costs as compared to the 1995 nationwide average loop cost, adjusted annually to reflect inflation, to determine whether a carrier receives high cost support; (2) use the 1995 interstate allocation factor for DEM weighting; and (3) freeze the percentage of the NECA pool that is associated with LTS at 1996 levels.⁷⁶⁵ The state Joint Board members further recommend that, during the period before rural carriers begin to draw support based solely on a forward-looking cost methodology, each carrier continue to receive support based on all of the carrier's working lines, not just the eligible residential and single-line business lines.⁷⁶⁶ The state members of the Joint Board also depart from the Joint Board's recommendation that rural carriers not be allowed to elect to draw support solely based on forward-looking economic costs until January 1, 2001, when all rural carriers would begin using a forward-looking cost study for calculating their high cost support.⁷⁶⁷

299. We are persuaded by commenters stating that rural carriers require more time to adjust to any change in universal service support than large carriers do. While giving rural carriers ample time to plan for changes from the current methodology, we shall retain many features of the current support mechanisms for them until they move to a forward-looking economic cost methodology. Because we believe that rural carriers must begin immediately to plan their network maintenance and development more carefully, we will use some attributes of the ILEC Associations' proposal to limit the growth of the size of the current high cost support mechanisms beginning in 2000. We will use those mechanisms until they are replaced by the forward-looking economic cost methodology. The ILEC Associations' proposal would control the growth in support received by the carriers but still leave support to cover, at least partially, costs of essential plant investment.⁷⁶⁸ Because they find this proposal to offer a better initial mechanism for rural carriers than the Joint Board's recommendations, state Joint Board members also support the ILEC Associations' proposal.⁷⁶⁹ Starting on January 1, 1998, rural carriers shall receive high cost loop support, DEM weighting assistance, and LTS benefits on the basis of the modification of the existing support mechanism, described below. In addition, the other modifications to the existing mechanisms set forth shall also take effect on January 1, 1998.

300. High Cost Loop Support. We agree with the state members of the Joint Board that rural carriers may require a greater amount of support than fixed support mechanisms would

⁷⁶⁵ See ILEC Associations' February 14 *ex parte*; ILEC Associations' March 13 *ex parte*.

⁷⁶⁶ State High Cost Report at 3.

⁷⁶⁷ State High Cost Report at 4.

⁷⁶⁸ See ILEC Associations' February 14 *ex parte*.

⁷⁶⁹ State High Cost Report at 2.

provide.⁷⁷⁰ Consequently, we decline to adopt the Joint Board's recommendation to base support for high cost loops on costs reported in 1995. In order to maintain existing facilities and make prudent facility upgrades until such time as a forward-looking support mechanisms are in place, we direct that the use of the current formula to calculate high cost loops for rural ILECs continue for two years. Thus from January 1, 1998 through December 31, 1999, rural carriers will calculate support using the current formulas.⁷⁷¹

301. Beginning January 1, 2000, however, rural carriers shall receive high loop cost support for their average loop costs that exceed 115 percent of an inflation-adjusted nationwide average loop cost. The inflation-adjusted nationwide average cost per loop shall be the 1997 nationwide average cost per loop as increased by the percentage in change in Gross Domestic Product Chained Price Index (GDP-CPI)⁷⁷² from 1997 to 1998.⁷⁷³ We index loop costs to inflation in order to limit the growth in the fund because, historically, small carriers' costs have risen faster than the national average cost per loop. As a result, small carriers have drawn increased support from the fund. We are using the GDP-CPI of the year for which costs are reported because the support mechanisms reflect a two-year lag between the time when the costs on which support is based are incurred and the distribution of support. We are using the 1997 nationwide average loop cost per loop as the benchmark because the 1998 nationwide average loop costs would not be calculated until September 1999. The percentage of the above-average loop cost that rural carriers may recover from the support mechanisms during 2000 will remain consistent with the current provisions concerning support for high loop costs in the Commission's rules. We note that this modification to the existing benchmark for calculating high cost loop support enjoys wide support among ILEC commenters and is supported by the state Joint Board members in their report.⁷⁷⁴ We also conclude that rural carriers should continue to receive this support through the jurisdictional separations process, by allocating to the interstate jurisdiction the amount of a recipient's universal service support for loop costs.⁷⁷⁵

⁷⁷⁰ State High Cost Report at 2-3.

⁷⁷¹ See 47 C.F.R. § 36.631(c), (d).

⁷⁷² The Bureau of Economic Analysis, Department of Commerce, calculates and issues this index annually.

⁷⁷³ The inflation-adjusted nationwide average loop cost for the year 2000 shall be calculated in the following manner:

$$\frac{1998 \text{ GDP-CPI}}{1997 \text{ GDP-CPI}} \times 1997 \text{ nationwide average loop cost} = 2000 \text{ inflation-adjusted nationwide average loop cost.}$$

⁷⁷⁴ State High Cost Report at 2.

⁷⁷⁵ This allocation to the interstate jurisdiction would be in addition to any general allocation of loop costs to the interstate jurisdiction required by our rules. See 47 C.F.R. § 36.601.

302. Indexed Cap. Until rural carriers calculate their support using a forward-looking economic cost methodology, we shall continue to prescribe a cap on the growth of the fund to support high cost loops served by either non-rural and rural carriers equal to the annual average growth in lines. Because beginning January 1, 1999, non-rural carriers will no longer receive support under the existing universal service mechanisms, it is necessary to recalculate the cap based on the costs of the rural carriers that will remain under the modified existing support mechanisms. This overall cap will prevent excessive growth in the size of the fund during the period preceding the implementation of a forward-looking support mechanisms. We conclude that a cap will encourage carriers to operate more efficiently by limiting the amount of support they receive. We also conclude that excessive growth in high loop cost support would make the change to forward-looking support mechanisms more difficult for rural carriers if those support mechanisms provide significantly different levels of support. From our experience with the indexed cap on the current high cost support mechanisms, implemented pursuant to the recommendations of the 80-286 Joint Board proceeding, we conclude that the indexed cap effectively limits the overall growth of the fund, while protecting individual carriers from experiencing extreme reductions in support.⁷⁷⁶

303. DEM Weighting Support. We adopt the Joint Board's recommendation that a subsidy corresponding in amount to that generated formerly by DEM weighting be recovered from the new universal service support mechanisms.⁷⁷⁷ Accordingly, the local switching costs assigned to the interstate jurisdiction beginning in 1998 will include an amount based on the modified DEM weighting factor. We will not, however, set DEM weighting support on a per-line basis and calculate support for high switching costs based on the amount by which revenues collected by each carrier exceed what would be collected without DEM weighting for calendar year 1996. We conclude that setting support at those levels may not provide rural carriers with sufficient resources to enable the carriers to make prudent upgrades to their switching facilities so that they may continue to offer quality service to their customers. As we have discussed above, we do not believe that the fixed per-line support recommended by the Joint Board would provide rural carriers adequate support for providing universal service because support to offset increases in maintenance expenses due to natural disasters or inflation would not be available. Furthermore, we find that United Utilities' proposal to use switched minutes of use for allocating local switching costs contemplates a major modification in the Commission's separations rules without providing sufficient description of such a mechanism and its impact in calculating DEM

⁷⁷⁶ See Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board, *CC Docket No. 80-286, Report and Order*, 9 FCC Rcd 303 (1993). See also Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board, *CC Docket No. 80-286, Report and Order*, 11 FCC Rcd 2538 (1996); Federal State Joint Board on Universal Service, *CC Docket No. 96-45, Report and Order*, 61 Fed. Reg. 34376 (July 2, 1996).

⁷⁷⁷ Currently, DEM weighting assistance is an implicit support mechanism recovered through switched access rates charged to interexchange carriers by those ILECs serving fewer than 50,000 lines.

weighting.⁷⁷⁸ We decline to consider this proposal because we conclude that further information regarding the effect of such a modification on the allocation of costs among the federal and state jurisdictions is required. We adopt instead a modified version of the ILEC Associations' proposal to provide DEM weighting benefits prior to the conversion to a forward-looking economic cost methodology.

304. Beginning on January 1, 1998, and continuing until a forward-looking economic cost methodology for them becomes effective, rural carriers will receive local switching support based on weighting of their interstate DEM factors. Assistance for the local switching costs of a qualifying carrier will be calculated by multiplying the carrier's annual unseparated local switching revenue requirement by a local switching support factor, where the local switching support factor is the difference between the 1996 weighted and unweighted interstate DEM factors.⁷⁷⁹ If the number of a carrier's lines increases during 1997 or any successive year, either through the purchase of exchanges or through other growth in lines, such that the current DEM weighting factor would be reduced, the carrier must apply the lower weighting factor to the 1996 unweighted interstate DEM factor in order to derive the local switching support factor used to calculate universal service support.⁷⁸⁰ We conclude that this mechanism will provide support for carriers to make prudent upgrades to their switching equipment needed to maintain, if not improve, the quality of service to their customers.

305. Long Term Support. Consistent with the Joint Board's recommendation, beginning in 1998, rural carriers will recover from the new universal service support mechanisms LTS at a level sufficient to protect their customers from the effects of abrupt increases in the NECA CCL rates. We agree with those commenters contending that the Joint Board's recommendation that the mechanisms compensate each common line pool member on the basis of its interstate common line revenue requirement relative to the total interstate common line revenue requirement does not consider each carrier's revenues from other sources, such as SLCs and CCL charges.⁷⁸¹ Accordingly, we decline to adopt the Joint Board's recommendation to calculate the support for LTS on a fixed per-line basis. Instead, we adopt a modified per-line support mechanisms for providing LTS.

⁷⁷⁸ Local switching costs are apportioned as Category 3 switching costs in accounts 2210, 2211, 2212, and 2215 in the Commission's separations rules. See 47 C.F.R. §§ 36.122 and 36.125.

⁷⁷⁹ In addition, the 85 percent limit on interstate local switching cost set forth in section 36.125(f) of the Commission's rules, 47 C.F.R. § 36.125(f), will continue to apply.

⁷⁸⁰ See 47 C.F.R. § 36.125(b). Carriers with 10,000 or fewer access lines use a DEM weighting factor of 3, carriers with 10,001 - 20,000 lines use a DEM weighting factors of 2.5, and carriers with 20,001 to 50,000 lines use a DEM weighting factor of 2.

⁷⁸¹ See USTA comments at 29.

306. Beginning on January 1, 1998, we shall allow a rural carrier's annual LTS to increase from its support for the preceding calendar year based on the percentage of increase of the nationwide average loop cost. LTS is a carrier's total common line revenue requirement less revenues received from SLCs and CCL charges. This approach ties increases in LTS to changes in common line revenue requirements. Alternative options suggested are not sufficient because they depend on an ability to determine a nationwide CCL charge, which will no longer be possible if the non-pooling carriers switch to a per-line rather than a per-minute CCL charge.

307. Corporate Operations Expense. As we described earlier, for universal service support, we will not prescribe support for corporate operations expense for each carrier study area, as measured on an average monthly per-line basis, in excess of 115 percent of an amount projected for a service area of its sizes. The projected amount will be defined by a formula based upon a statistical study that predicts corporate operations expense based on the number of access lines.

308. Sale of Exchanges. Until support for all carriers is based on a forward-looking economic cost methodology, we conclude that potential universal service support payments may influence unduly a carrier's decision to purchase exchanges from other carriers. In order to discourage carriers from placing unreasonable reliance upon potential universal service support in deciding whether to purchase exchanges from other carriers, we conclude that a carrier making a binding commitment on or after May 7, 1997 to purchase a high cost exchange should receive the same level of support per line as the seller received prior to the sale. For example, if a rural carrier purchases an exchange from a non-rural carrier that receives support based on the forward-looking economic cost methodology, the loops of the acquired exchange shall receive per-line support based on the forward-looking economic cost methodology of the non-rural carrier prior to the sale, regardless of the support the rural carrier purchasing the lines may receive for any other exchanges. Likewise, if a rural carrier acquires an exchange from another rural carrier, the acquired lines will continue to receive per-line support of the selling company prior to the sale. If a carrier has entered into a binding commitment to buy exchanges prior to May 7, 1997, that carrier will receive support for the newly acquired lines based upon an analysis of the average cost of all its lines, both those newly acquired and those it had prior to execution of the sales agreement.⁷⁸² This approach reflects the reasonable expectations of such purchasers when they entered into the purchase and sale agreements. After support for all carriers is based on the forward-looking economic cost methodology, carriers shall receive support for all exchanges, including exchanges acquired from other carriers, based on the forward-looking economic cost methodology. We note that, when all carriers receive support based on forward-looking economic costs, the level of support will not be a primary factor in a carrier's decision to purchase exchanges because the carrier's support will not be based on the size of the study area nor embedded costs.

⁷⁸² See *supra* section VII.D.2, for a discussion of how acquisition of additional lines affects computation of a rural carrier's support for switching costs.

309. Early Use of Forward-Looking Economic Cost Methodology. Consistent with the recommendations in the State High Cost Report, at this time, we find that, because of the current methodologies' high margin of error for rural areas, we should not permit rural carriers to begin to use the forward-looking economic cost methodology when the non-rural ILECs do. We conclude that a forward-looking economic cost methodology developed for non-rural carriers will require further review before being applied to rural carriers. We conclude that a forward-looking economic cost methodology for rural carriers should not be implemented until there is greater certainty that the mechanisms account reasonably for the cost differences in rural study areas.⁷⁸³

310. Certification as a Rural Carrier. Consistent with the Joint Board's recommendation, we define "rural carriers" as those carriers that meet the statutory definition of a "rural telephone company."⁷⁸⁴ In order for the administrator to calculate support payments, a carrier must notify the Commission and its state commission, that for purposes of universal service support determinations, it meets the definition of a "rural carrier." Carriers should make such a notification each year prior to the beginning of the payout period for that year. We reject the contention of some commenters that a more formal certification process is necessary to prevent abuse. Although carriers may self-certify, the Commission and the state commissions may still verify the accuracy of the carriers' statements. The current support mechanisms rely on truthful reporting by carriers and we have found a high degree of industry compliance with the reporting requirements. In light of this fact, a separate proceeding by the Commission to verify each rural carrier's eligibility for classification as a rural telephone company, as AT&T suggests,⁷⁸⁵ would impose significant and unnecessary administrative costs on the Commission and industry. We find that a self-certification process, coupled with random verification by the Commission and the availability of the section 208 compliance process, would ensure that support is distributed to a carrier without delay and still provide adequate protection against abuse.⁷⁸⁶

311. Portability of Support. We adopt the Joint Board's recommendation to make rural carriers' support payments portable. As we discussed above regarding non-rural carriers, a CLEC that qualifies as an eligible telecommunications carrier shall receive universal service support to the extent that it captures subscribers formerly served by carriers receiving support

⁷⁸³ State High Cost Report at 4.

⁷⁸⁴ 47 U.S.C. § 153(37).

⁷⁸⁵ AT&T comments at 27.

⁷⁸⁶ 47 U.S.C. § 208. Members of the public and other state or municipal regulatory bodies may file with the Commission a complaint against a common carrier alleging violations of the Act pursuant to section 208 of the Act.

based on the modified existing support mechanisms or adds new customers in the ILEC's study area. We conclude that paying the support to a competitive eligible telecommunications carrier that wins the customer or adds a new subscriber would aid the entry of competition in rural study areas.

312. We shall calculate an ILEC's per-line support by dividing the ILEC's universal service support payment by the number of loops in the ILEC's most recent annual loop count to calculate universal service support for all eligible telecommunications carriers serving customers within that ILEC's study area.⁷⁸⁷ Moreover, in order to avoid creating a competitive disadvantage for an eligible CLEC using exclusively unbundled network elements to provide service, that carrier will receive the universal service support for the customer, not to exceed the cost of the unbundled network elements used to provide the supported services. If the service is provided in part through facilities constructed and deployed by the CLEC and in part through unbundled network elements, then support will be allocated between the ILEC and the CLEC depending on the amount of support assigned to each element and whether the carrier constructed the facilities used to provide service or purchased access to an unbundled network element. For example, if a CLEC provides service using a switch that it has constructed and deployed in combination with an unbundled loop element, then the CLEC would receive the per-line DEM support, the support associated with switching, and the lesser of the unbundled loop element rate or the universal service support associated with the loop. The ILEC would receive any universal service support that is in excess of the unbundled loop element rate because this will allow the ILEC to recover its economic cost associated with facilities used to provide universal service.

313. We conclude that determining a rural ILEC's per-line support by dividing the ILECs' universal service support payment by the number of loops served by that ILEC to calculate universal service support for all eligible telecommunications carriers serving customers within that rural ILEC's study area will be the least burdensome way to administer the support mechanisms and will provide the competing carrier with an incentive to operate efficiently. Besides using a forward-looking or embedded costs system, the alternative for calculating support levels for competing eligible telecommunications carriers consists of requiring the CLECs to submit cost studies. Compelling a CLEC to use a forward-looking economic cost methodology without requiring the ILEC's support to be calculated in the same manner, however, could place either the ILEC or the CLEC at a competitive disadvantage. We thus disagree with commenters that assert that providing support to eligible CLECs based on the incumbents' embedded costs would violate Section 254(e).

⁷⁸⁷ When the support is based on the forward-looking economic cost of serving lines in a particular geographic area, the carrier that serves the line, either the ILEC or the CLEC, will receive the support for that line, sharing only if the CLEC takes that loop as an unbundled network element at a rate less than the universal service support for that line. *See supra* section VI.B.

314. Alaska and Insular Areas. The Joint Board recommended that, because of the unique circumstances faced by rural carriers providing service in Alaska and insular areas, those carriers should not be required to shift to support mechanisms based on the forward-looking economic cost at the same time that other rural carriers are so required. The Joint Board noted that carriers serving insular areas have higher shipping costs for equipment and damage caused by tropical storms, while carriers serving Alaska have limited construction periods and serve extremely remote rural communities.⁷⁸⁸ Therefore, the Joint Board recommended that rural carriers in Alaska and insular areas continue to receive support based on the fixed support amounts.⁷⁸⁹ The Joint Board further recommended that the Commission revisit at a future date the issue of when to move such carriers to a forward-looking economic cost methodology.⁷⁹⁰ Given the plan we adopt in this Order, we find that we do not need to resolve the issue of rural carriers serving Alaska and insular areas at this time because we have not set a time frame for rural carriers to move to the forward-looking economic cost methodology. We will revisit this question when we decide the schedule for other rural carriers moving to the forward-looking economic cost methodology.

315. We do not accept the suggestion of Puerto Rico Tel. Co., the twelfth largest telephone company in the nation,⁷⁹¹ that non-rural carriers that serve Alaska or insular areas should be treated as rural carriers and allowed to postpone their conversion to the forward-looking economic cost methodology. Puerto Rico Tel. Co. argues that extreme weather and terrain conditions and high shipping costs justify its continued receipt of support based on embedded cost. The Joint Board's recommendation to postpone application of forward-looking support mechanisms to rural carriers, however, was based on the size of rural carriers and the fact that rural carriers generally serve fewer subscribers and do not benefit from economies of scale and scope as much as non-rural carriers.⁷⁹² Even if they are not classified as rural carriers, non-rural carriers that serve Alaska or insular areas will continue to receive universal service support if their service areas are high cost areas. At the same time, however, large telephone companies such as Puerto Rico Tel. Co. should possess economies of scale and scope to deal efficiently with the cost of providing service in their areas, and thus, the level of that support will be determined through a forward-looking mechanism. Consequently, we agree with the Joint Board that non-rural carriers serving Alaska and insular areas should move to the forward-

⁷⁸⁸ Recommended Decision, 12 FCC Rcd at 239-40, 308.

⁷⁸⁹ Recommended Decision, 12 FCC Rcd at 239-40.

⁷⁹⁰ Recommended Decision, 12 FCC Rcd at 240.

⁷⁹¹ Puerto Rico Tel. Co. is the twelfth largest telephone company, including holding companies, as measured by access lines, in the United States with 1,135,679 access lines and operating revenues of \$1 billion in 1995. USTA, *Statistics of the Local Exchange Carriers* (1996) at 5, 24.

⁷⁹² See Recommended Decision, 12 FCC Rcd at 235.

looking economic cost methodology at the same time as other non-rural carriers. We note, however, that we retain the ability to grant waivers of this requirement in appropriate cases.

316. We also decline to adopt USTA's proposal to use the standard set out in section 251(f)(2) of two percent of the nation's subscriber lines installed in the aggregate nationwide to define which carriers serving Alaska or insular areas may continue to receive support based on their set support amounts pending further review by the Commission.⁷⁹³ That standard is included in section 251, which addresses local competition issues.⁷⁹⁴ In other parts of the Act, including those concerning universal service, there is no separate standard for defining rural carriers, so the general definition set out in section 153 applies.⁷⁹⁵ As discussed previously, the Act establishes different procedures for "rural telephone companies" in section 214(e), which sets forth the requirements for carrier eligibility to receive universal service support and the service areas in which carriers must provide service in order to qualify for such support.⁷⁹⁶

317. We note, however, that the forward-looking economic cost models that have been presented to us so far do not include any information on Alaska or the insular areas.⁷⁹⁷ We anticipate that information for non-rural carriers serving Alaska and insular areas will be included in future versions of the models. If such information is not available in a timely manner, we recognize that we may need to adjust the schedule for non-rural carriers serving Alaska and insular areas to move to support based forward-looking economic cost. We will evaluate that situation as we proceed with our determination of a forward-looking economic cost methodology through the FNPRM. We also note that, in the absence of such information in the models, the commissions for Alaska and the insular areas may still submit a state cost study to the Commission.

318. We agree with Guam Tel. Authority that, under the principle set out in section 254(b)(3)⁷⁹⁸ this carrier should be eligible for universal service support and clarify the procedures to be used for any carriers, such as Guam Tel. Authority,⁷⁹⁹ that may not have

⁷⁹³ 47 U.S.C. § 251(f)(2).

⁷⁹⁴ See 47 U.S.C. § 251.

⁷⁹⁵ 47 U.S.C. § 153(47).

⁷⁹⁶ 47 U.S.C. § 214(e).

⁷⁹⁷ See BCPM Jan. 31 Submission; Hatfield Feb. 28 Submission.

⁷⁹⁸ 47 U.S.C. § 254(b)(3). See also Joint Explanatory Statement at 131 ("section 254(b) combines the principles found in both the Senate bill and House amendment, with the addition of 'insular areas' (such as the Pacific Island territories)").

⁷⁹⁹ Guam Tel. Authority is the local exchange carrier on Guam. Guam Tel. Authority comments at 2.

historical costs studies on which to base the set support amounts.⁸⁰⁰ Guam Tel. Authority or any other carrier serving an insular area, such as CNMI, that is not currently included in the existing universal service mechanism, shall receive support based on an estimate of annual amount of their embedded costs. Such carriers must submit verifiable embedded-cost data to the fund administrator. We anticipate that such carriers will work with the fund administrator to determine the exact support level to which they are entitled.

E. Use of Competitive Bidding Mechanisms

319. In the NPRM, the Commission sought comment on whether competitive bidding could be used to determine universal service support in rural, insular, and high cost areas. Specifically, the Commission asked whether relying on competitive bidding would be consistent with section 214(e),⁸⁰¹ the provision of the statute that specifies the circumstances under which telecommunications carriers are eligible to receive universal service support.⁸⁰² Under a competitive bidding mechanism eligible telecommunications carriers would bid on the amount of support per line that they would receive for serving a particular geographic area.

320. The Joint Board identified many advantages arising from the use of a competitive bidding system.⁸⁰³ We agree with the Joint Board and the commenters that a compelling reason to use competitive bidding is its potential as a market-based approach to determining universal service support, if any, for any given area.⁸⁰⁴ The Joint Board and some commenters also noted that by encouraging more efficient carriers to submit bids reflecting their lower costs, another advantage of a properly structured competitive bidding system would be its ability to reduce the amount of support needed for universal service.⁸⁰⁵ In that regard, the bidding process should also capture the efficiency gains from new technologies or improved productivity, converting them into cost savings for universal service. Like the Pennsylvania PUC,⁸⁰⁶ the California

⁸⁰⁰ See Guam Tel. Authority comments at 2.

⁸⁰¹ 47 U.S.C. § 214(e).

⁸⁰² NPRM at para. 35.

⁸⁰³ See Recommended Decision, 12 FCC Rcd at 266.

⁸⁰⁴ See AirTouch comments at 24; CSE Foundation comments at 7.

⁸⁰⁵ Recommended Decision, 12 FCC Rcd at 266. See, e.g., Ameritech comments at 13; GSA comments at 10; Sprint PCS comments at 6.

⁸⁰⁶ The Pennsylvania PUC has recognized this advantage in Pennsylvania Public Utility Commission, *Formal Investigation to Examine and Establish Updated Universal Service Principles and Policies for Telecommunications Services in the Commonwealth*, Opinion and Order, Docket No. I-00940035 (entered Jan. 28, 1997) at 31.

PUC,⁸⁰⁷ and the Joint Board, we find that competitive bidding warrants further consideration.⁸⁰⁸

321. In the Recommended Decision, the Joint Board found, however, that the record before it was insufficient to support the adoption of any particular competitive bidding mechanism.⁸⁰⁹ The Joint Board recommended that the Commission continue to investigate how to structure a fair and effective competitive bidding system. The Joint Board specifically recommended that any competitive bidding system be competitively neutral and not favor either the incumbent or new entrants. Only GTE proposed a detailed competitive bidding plan,⁸¹⁰ and even GTE characterized the proposal as an outline rather than a final, fixed proposal.⁸¹¹ The

⁸⁰⁷ Cal. P.U.C. D. 96-10-066 at 215-16, 260.

⁸⁰⁸ We also note that Chile and Peru use competitive bidding as part of their universal service programs. In Chile the Rural Telecommunications Development (RTD) Fund is allocated to companies based on an annual competitive bidding process in order to increase the number of public payphones in rural and low-income urban areas. The competitive bidding process is initiated when the Subsecretaria de Telecomunicaciones (SUBTEL), issues an annual report of RTD projects by priority. SUBTEL assigns an "RTD subsidy" for each project and issues a public notice calling for qualified companies to submit bids. Bids are opened during a public meeting, and the lowest bids win. Companies that receive funds are not given any exclusive rights for the areas that they serve. Subsecretaria de Telecomunicaciones (SUBTEL) de Chile. *Funcionamiento del Fondo de Desarrollo de las Telecomunicaciones*. SUBTEL document, February, 1997. In Peru, the Organismo Supervisor de la Inversion Privada de Telecomunicaciones (OSIPTEL) has stated that it will allocate funds from its Fund for Investment in Telecommunications (FITEL) program through a competitive bidding process similar to the one used in Chile. The FITEL program is intended to expand universal service by bringing telephone service to areas not currently served by Telefonica de Peru, the monopoly provider of telephone services. von Hese, Milton, *Telecommunications for Rural and Preferential Social Interest Areas Development: Strategy and Funding Policy*, Organismo Supervisor de la Inversion Privada de Telecomunicaciones (OSIPTEL) at 13- 17.

⁸⁰⁹ Recommended Decision, 12 FCC Rcd at 265.

⁸¹⁰ GTE proposes that the auction process be administered by the states subject to federal guidelines. GTE's proposal would call for a competitive bidding process to replace the proxy-based system used to establish universal service support levels in a market once competing carriers enter that market and are willing to accept all the carrier of last resort obligations imposed on the ILEC. Competitors that wish to become carriers of last resort in a given area would submit a notice of intent to bid to the state commission that would trigger an auction process for that area. The form of the auction would be a sealed bid, single-round auction. An entrant could nominate a set of CBGs as the area it wishes to serve. Those companies making nominations would be required to establish their qualifications to satisfy the carrier of last resort requirement. In order to induce aggressive and low bidding, only those carriers that bid within a specified range of the lowest bidder would be eligible to receive support. The support levels would be the same for each of the carriers in this range and would be set equal to the highest accepted bid in that range. If the auction results in a new carrier of last resort for the area, either in addition to the incumbent or in place of the incumbent, the support levels and obligations for that area would be frozen for three years. No new entrants could receive universal support during this time, although they could enter and provide service without support. After the three-year period, the area could be bid upon again. See GTE NPRM further comments at 45-55, Att. 1.

⁸¹¹ GTE NPRM further comments, att. 1 at 1.

Joint Board found, however, that the GTE proposal posed serious questions that warranted further inquiry, and set out a number of questions about the GTE plan in the Recommended Decision.⁸¹²

322. We agree with the commenters that suggest we issue a notice to examine issues related to the use of competitive bidding to set universal service support levels for rural, insular, and high cost areas.⁸¹³ We find that the record in this proceeding does not contain discussion of those issues adequate for us to define at this time a competitive bidding mechanism that is also consistent with the requirements of sections 214(e) and 254. Overall, there is even less discussion in the comments on the Recommended Decision addressing the use of competitive bidding by the Commission than in the comments filed in response to the NPRM and the Common Carrier Bureau's Public Notice.

323. In addition, these most recent comments largely discuss only the general concept of setting universal service support through competitive bidding, and offer only very limited analysis of specific procedures for implementing a lawful competitive bidding system. For example, while the Joint Board asked several specific questions about the GTE proposal,⁸¹⁴ only a few commenters other than GTE discussed that specific plan.⁸¹⁵ In contrast, numerous parties filed substantial comments analyzing the cost models,⁸¹⁶ and the state Joint Board staff has made specific recommendations regarding selection of a cost model to determine the cost of providing the supported services.⁸¹⁷

324. As several commenters note, it is unlikely that there will be competition in a significant number of rural, insular, or high cost areas in the near future.⁸¹⁸ Consequently, it is unlikely that competitive bidding mechanisms would be useful in many areas in the near future. Given the limited utility of a competitive bidding process in the near term, it is important that we not rush to adopt competitive bidding procedures before we complete a thorough and complete

⁸¹² Recommended Decision, 12 FCC Rcd at 268.

⁸¹³ See, e.g., AirTouch comments at 24; CSE Foundation comments at 10; Sprint PCS comments at 5; GTE reply comments at 61.

⁸¹⁴ See Recommended Decision, 12 FCC Rcd at 268.

⁸¹⁵ See, e.g., CSE Foundation comments at 8; AT&T reply comments at 9; RTC reply comments at 20; Teleport reply comments, att.

⁸¹⁶ See Appendix J.

⁸¹⁷ See State High Cost Report; Majority State Members' Second High Cost Report.

⁸¹⁸ See, e.g., CNMI comments at 38; Minnesota Coalition comments at 27; Sprint PCS comments at 5; WorldCom comments at 22.

examination of the complex and unique issues involved with developing bidding mechanisms for awarding of universal service support.⁸¹⁹ Furthermore, as envisioned in the proposals made to the Commission thus far, competitive bidding will be a complement to, not a substitute for, an alternative forward-looking economic cost methodology. We will seek, as GTE suggests,⁸²⁰ to define a role for a competitive bidding mechanism as part of the forward-looking economic cost methodology by which support to non-rural carriers for their provision of universal service is defined after December 31, 1998.

325. We shall therefore issue a FNPRM examining specifically the use of competitive bidding to define universal service support for rural, insular, and high cost areas. Our goal will be to develop a record on specific competitive bidding mechanisms sufficient to enable us to adopt one, if we also find it to be in the public interest. A separate proceeding will allow commenters to focus on the issues posed by a decision to use competitive bidding for universal service support in light of our actions in this Order. Although we agree with the Joint Board that competitive bidding is consistent with section 254, and comports with the intent of the 1996 Act to rely on market forces and to minimize regulation,⁸²¹ we will more thoroughly address these issues in the FNPRM. That proceeding would also allow us to examine how the results from auctions in areas in which there is competition could be used to adjust the support levels in areas lacking competition, as AirTouch suggests.⁸²²

⁸¹⁹ Among the issues that we would need to address before prescribing a competitive bidding mechanism for universal service support are how to prevent collusion between bidders, whether safeguards are needed to prevent a bidder from bidding excessively low to drive out competitors, whether and how bidders may withdraw from being an eligible carrier based on the support level of the winning bid, and whether additional quality of service standards are needed for areas for which the support levels set by competitive bidding. The FNPRM would also address the issue of whether there are synergies from serving adjacent markets that will have a determinative impact on whether a single-round bidding process or a simultaneous multi-round bidding process would be more efficient.

⁸²⁰ See GTE comments at 60.

⁸²¹ Recommended Decision, 12 FCC Rcd at 266. See also City of Chicago reply comments at 18.

⁸²² See AirTouch comments at 24-25.